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DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01090

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## SECTION 01090

## SOURCES FOR REFERENCE PUBLICATIONS

## 1.1 REFERENCES

Various publications are referenced in other sections of the specifications to establish requirements for the work. These references are identified in each section by document number, date and title. The document number used in the citation is the number assigned by the standards producing organization, (e.g. ASTM B 564 Nickel Alloy Forgings). However, when the standards producing organization has not assigned a number to a document, an identifying number has been assigned for reference purposes.

## 1.2 ORDERING INFORMATION

The addresses of the standards publishing organizations whose documents are referenced in other sections of these specifications are listed below, and if the source of the publications is different from the address of the sponsoring organization, that information is also provided. Documents listed in the specifications with numbers which were not assigned by the standards producing organization should be ordered from the source by title rather than by number. The designations "AOK" and "LOK" are for administrative purposes and should not be used when ordering publications.

## 2.1 [Enter Appropriate Subpart Title Here]

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS  
(AASHTO)

444 N. Capital St., NW, Suite 249  
Washington, DC 20001  
Ph: 800-231-3475 202-624-5800  
Fax: 800-525-5562 202-624-5806  
Internet: [www.transportation.org](http://www.transportation.org)  
AOK 5/01  
LOK 2/01

## AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

100 Barr Harbor Drive  
West Conshohocken, PA 19428-2959  
Ph: 610-832-9585  
Fax: 610-832-9555  
Internet: [www.astm.org](http://www.astm.org)  
AOK 5/01  
LOK 3/01

## CONCRETE REINFORCING STEEL INSTITUTE (CRSI)

933 N. Plum Grove Rd.  
Schaumburg, IL 60173-4758  
Ph: 847-517-1200

Fax: 847-517-1206  
Internet: [www.crsi.org](http://www.crsi.org)  
AOK 5/01  
LOK 6/00

## NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH)

Mail Stop C-13  
4676 Columbia Parkway  
Cincinnati, OH 45226-1998  
Ph: 800-356-4674  
Fx: 513-533-8573  
Internet: [www.cdc.gov/niosh/homepage.html](http://www.cdc.gov/niosh/homepage.html)  
To order pubs for which a fee is charged, order from:  
Superintendent of Documents  
U.S. Government Printing Office  
732 North Capitol Street, NW  
Mailstop: SDE  
Washington, DC 20401  
Ph: 202-512-1262  
Fax: 202-512-1262  
Internet: [www.gpo.gov](http://www.gpo.gov)  
AOK 5/01  
LOK 6/00

## U.S. ARMY (DA)

Internet: [www.usace.army.mil/publications](http://www.usace.army.mil/publications)

## U.S. ARMY CORPS OF ENGINEERS (USACE)

Order CRD-C DOCUMENTS from:  
U.S. Army Engineer Waterways Experiment Station  
ATTN: Technical Report Distribution Section, Services  
Branch, TIC  
3909 Halls Ferry Rd.  
Vicksburg, MS 39180-6199  
Ph: 601-634-2664  
Fax: 601-634-2388  
Internet: [www.wes.army.mil/SL/MTC/handbook/handbook.htm](http://www.wes.army.mil/SL/MTC/handbook/handbook.htm)

Order Other Documents from:  
USACE Publications Depot  
Attn: CEIM-SP-D  
2803 52nd Avenue  
Hyattsville, MD 20781-1102  
Ph: 301-394-0081  
Fax: 301-394-0084  
Internet: [www.usace.army.mil/publications](http://www.usace.army.mil/publications)  
or [www.hnd.usace.army.mil/techinfo/index.htm](http://www.hnd.usace.army.mil/techinfo/index.htm)  
AOK 5/01  
LOK 6/00

## U.S. DEPARTMENT OF COMMERCE (DOC)

Order Publications From:  
National Technical Information Service  
5285 Port Royal Road  
Springfield, VA 22161  
Ph: 703-605-6000  
Fax: 703-605-6900  
Internet: [www.ntis.gov](http://www.ntis.gov)  
AOK 5/01  
LOK 6/00

## U.S. DEPARTMENT OF DEFENSE (DOD)

Order DOD Documents from:  
National Technical Information Service  
5285 Port Royal Road  
Springfield, VA 22161  
Ph: 703-605-6000  
FAX: 703-605-6900  
Internet: [www.ntis.gov](http://www.ntis.gov)

Order Military Specifications, Standards and Related  
Publications from:  
Department of Defense Single Stock Point for (DODSSP)  
Defense Automation and Production Service (DAPS)  
Bldg 4D  
700 Robbins AV  
Philadelphia, PA 19111-5094  
Ph: 215-697-2179  
Fax: 215-697-1462  
Internet: [www.dodssp.daps.mil](http://www.dodssp.daps.mil)  
AOK 5/01  
LOK 6/00

## U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)

Ariel Rios Building  
1200 Pennsylvania Avenue, N.W.  
Washington, DC 20460  
Ph: 202-260-2090  
FAX: 202-260-6257  
Internet: [www.epa.gov](http://www.epa.gov)

NOTE: Some documents are available only from:

National Technical Information Services (NTIS)  
5285 Port Royal Rd.  
Springfield, VA 22161  
Ph: 703-605-6000  
Fax: 703-605-6900  
Internet: [www.ntis.gov](http://www.ntis.gov)  
AOK 5/01

LOK 6/00

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## SECTION [01100]

## SPECIAL PROJECT PROCEDURES

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## SECTION [01100]

## SPECIAL PROJECT PROCEDURES

## PART 1 GENERAL

## 1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

## U.S. GOVERNMENT CODE OF FEDERAL REGULATIONS (CFR)

33 CFR 320-330                      General Regulatory Policies, Permits,  
Enforcement and Definitions

## 1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

## SD-01 Preconstruction Submittals

## Accident Prevention Plan

Contractor shall provide an accident prevention plan including an activity hazard analysis to the Contracting Officer within 15 calendar days after receipt of award. Plan shall be in accordance with Contract Clause entitled "ACCIDENT PREVENTION (NOV 1991) - ALTERNATE 1.

## Payrolls and Basic Records

Contractor shall submit payrolls and basic records in accordance with the CLAUSE entitled "PAYROLLS AND BASIC RECORDS (FEB 1988)".

## Progress Chart; G-AOF

Contractor shall submit progress chart in accordance with the Contract clause entitled "SCHEDULE FOR CONSTRUCTION CONTRACTS (APR 1984)".



Non-listed, Non-Commercially Active Stone or Material Source; G-ECD.

If after award of a contract, the Contractor proposes to furnish sand, soil, granular or aggregate materials from non-listed, or non-commercially active sources, the following information and data for each non-listed or non-commercially active source of sand, soil, granular or aggregate material shall be furnished forty-five (45) or more calendar days prior to the date the Contractor is scheduled to obtain materials from such source(s).

- a. Name and address (Property Owner).
- b. Location, site map, and legal description (or appropriate substitute) of the area.
- c. Previous land use information.
- d. A topographic map of the area.
- e. Photographs showing the area proposed for use.
- f. Written permission of the owners of the proposed non-listed or non-commercially active sources(s).
- g. Written permission of the owners of the access properties involved.
- h. All data required to assess potential environmental impacts. This information is required in order to determine the necessity for environmental documentation for any non-commercially active, non-listed source(s).
- i. Documentation of coordination of the use of proposed non-commercially active, non-listed source(s) with Federal, State and local agencies having an interest and furnish written approval of these agencies for use of such source(s).

(1) Supervisor, Green Bay Field Office, U.S. Fish and Wildlife Service, 1015 Challenger Court, 43 Business Center, Green Bay, Wisconsin 54311.

(2) Chief, Planning and Assessment Branch (ME-J19), U.S. Environmental Protection Agency, 77 West Jackson Blvd., Chicago, Illinois 60604-3590.

(3) Chief, Compliance Section, Historic Preservation Division, State Historical Society of Wisconsin, 816 State Street, Madison, Wisconsin 53706.

(4) Chief, Lake Michigan District, Wisconsin Department of Natural Resources, P.O. Box 10448, Green Bay, Wisconsin 54307-0448.

(5) Chief, Southeast District, Wisconsin Department of Natural Resources, P.O. Box 12436, Milwaukee, Wisconsin 53213.

(6) Chief, Northwest District, Wisconsin Department of Natural

Resources, P.O. Box 309, Spooner, Wisconsin 54801.

j. The proposed reduction, if any, in the applicable unit or lump-sum prices in the BIDDING SCHEDULE if the request were to be approved by the Government.

Utility Locating Plan; G-AOF.

Submit a plan of the proposed procedure for locating existing utilities prior to commencing work at the project site. The plan shall include the local telephone number of MISS DIG, if work includes upland excavation.

Utility Location Findings; G-AOF.

Submit a copy of the utility location findings prior to commencing work on the site.

Survey Note Format; G-AOF.

Submit the proposed survey note format prior to performing any survey work at the work site.

SD-07 Certificates

As-Built Technician's Qualifications

Submit the identity and qualifications of the persons assigned to prepare the as-built information at least 10 calendar days in advance of preparing the drawings.

As-built Drawings; G-AOF.

Within ten (10) calendar days after the substantial completion date as established by the Contracting Officer, submit the as-built details of the work performed under this contract on a set of blue-line prints of the contract drawings marked in red. Following review and approval by the Government, the Contractor shall prepare electronic and mylar copies of as-built drawings for submittal within 15 calendar days following receipt of comments from the Government. Electronic files shall be submitted in Microstation 95 (.dgn) CADD file format, suitable for plotting with Intergraph IPLOT Software. The electronic medium for file transfers shall be agreed to prior to the time of submittal and shall be compatible with current industry standards and hardware configurations.

Survey Information

Upon completion of the contract work, the originals of all field notes, sketches, recordings and computations made by the Contractor in performing the layout work shall be submitted in ring binders.

### 1.3 REGULATORY REQUIREMENTS

#### 1.3.1 Additional Work Proposed and Not Authorized

##### 1.3.1.1 Work Subject to 33 CFR 320-330

Any additional work (not specifically shown on the plans or delineated in the specifications) proposed by the Contractor in or affecting navigable waters, including wetlands (as defined in 33 CFR 320-330, published in the Federal Register Vol.51, No. 219, Thursday, November 13, 1986) shall not be performed without a Department of the Army Permit. This requirement shall be applicable to all work, permanent or temporary, and/or fill(s). The Department of the Army Permit shall be approved by the District Engineer or Deputy District Engineer in accordance with the laws of the United States and the regulations promulgated thereunder, including, but not limited to, the River and Harbor Act of 1899, the Clean Water Act and the National Environmental Policy Act of 1969, as amended. Corps employees (Contracting Officer's Representatives (COR) or inspectors) are not delegated authority to authorize such work. Information on making application for such permit(s) may be obtained by contacting one of the offices as listed hereinafter. When applying for information or a permit, a copy of any correspondence should be directed to the Contracting Officer of this contract. If a permit is not obtained, the additional work cannot be accomplished. Any delay in processing the permit will not constitute the basis of a claim under this contract. The fact that the Contractor is performing work under a Department of the Army Contract will give the Contractor no greater rights than any other applicant for a Department of the Army Permit.

#### WISCONSIN-MINNESOTA

Regulatory Functions Branch  
Construction-Operations Division  
U.S. Army Engineer District, St. Paul  
1135 USPO & Custom House  
St. Paul, MN 55101  
Telephone: 612-725-5819

### 1.4 PROJECT/SITE CONDITIONS

#### 1.4.1 Condition and Use of Project Site

The drawings indicate soundings and elevations at the project site as found in condition surveys made as stated on the contract drawings. A notification of at least five (5) calendar days shall be given to the Contracting Officer prior to bringing any construction equipment or material upon the work site. The Contractor shall be responsible for damages that may be suffered due to its operations. The Contractor shall note CLAUSE titled "PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS."

##### 1.4.1.1 Work and Storage Areas

Work and storage areas will be provided at the site and will be as designated on the contract drawings.

#### 1.4.2 Waterways Navigation and Traffic

The Contractor shall acquaint itself with all information and regulations pertaining to navigation and vessel traffic within the waterways at the project site. The Contractor shall coordinate with the U.S. Coast Guard to assure that a "NOTICE TO MARINERS" is issued prior to its work activity at the project site. A copy of the requisite notice form is enclosed in SECTION 01999. The completed form shall be sent to the address stated in the Subparagraph entitled "Temporary Lights, Signals and Buoys Required by U.S. Coast Guard". The Government will not undertake to keep the waterways free from vessels or other obstructions, except to the extent of such regulations, if any, as may be prescribed by the Secretary of the Army, in accordance with the provisions of Section 7 of the River and Harbor Act approved 8 August 1917 (see Title 33, U.S.C.A. Sec. 1). The Contractor is required to conduct its work in such manner as to obstruct navigation as little as possible and, in case the Contractor's plant so obstructs a channel as to make difficult or endanger the passage of vessels, said plant shall be promptly moved on the approach of any vessel to such an extent as may be necessary to afford a practicable passage. Upon completion of the work, the Contractor shall promptly remove its plant, including ranges, buoys, piles, and other marks placed by it under the contract in navigable waters or on shore.

##### 1.4.2.1 Navigation

Information and regulations pertaining to navigation may be obtained from the current issue of the "UNITED STATES COAST PILOT 6," issued annually by the Department of Commerce, National Oceanic and Atmospheric Administration (NOAA). The "UNITED STATES COAST PILOT" may be obtained from National Ocean Survey, NOAA, Distribution Division-C44, Riverdale, Maryland 20840.

##### 1.4.2.2 Traffic

Vessels that may use the waterways at the project site consist of recreational craft and commercial vessels. This traffic may interfere with contract operations and the Contractor shall conduct its work with due regard to and in coordination with the requirements of all navigation. Information regarding the types and amount of passages made by commercial vessels that may use the waterways at the project site may be obtained from the current issue of the "Waterborne Commerce of the United States, Part 3, Waterways and Harbors, Great Lakes," published by the Department of Army, Corps of Engineers. The Department of the Army publication may be obtained at no charge from the following:

District Engineer, U.S. Army Engineer District, New Orleans, Waterborne Commerce Section, P.O. Box 60267, New Orleans, Louisiana 70160. Phone 504-862-1425, FAX 504-862-1091.

#### 1.4.3 Existing Vegetation, Structures, Equipment, Utilities & Improvements

General locations of applicable existing utilities, vegetation, structures, equipment and improvements, based upon latest information available to the Government have been shown on the drawings. However, it is the Contractor's obligation to establish the exact horizontal and vertical location and size of all existing utility lines which are located within the required work area. The Contractor shall submit a utility locating plan for locating existing utilities and a copy of its utility location findings

prior to commencing work on the site. Any utility lines which are not found by the Contractor, but which are known to exist at the project site, shall be reported to the Contracting Officer immediately. The Contracting Officer will have the option of directing commencement of work at the site or requiring the Contractor to submit further plans for locating the utility lines. Once the utilities have been located and marked, the Contractor shall be deemed to have the location made known to it pursuant to CLAUSE titled "PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS." If the Contractor damages any existing utility line, vegetation, structure, equipment or improvement, a report thereof shall be made immediately to the Contracting Officer. In any event, existing utility lines, vegetation, structures, equipment or improvements shall be protected from damage, and if damaged, shall be repaired by the Contractor at its own expense.

#### 1.4.4 Utility Services

##### 1.4.4.1 Contractor-Furnished Utility Services

The Contractor shall furnish, all water, electric current and other utilities required for its use.

#### 1.4.5 Protection and Maintenance of Traffic

##### 1.4.5.1 Haul Roads

The Contractor shall, at its own expense, construct access and haul roads necessary for proper prosecution of the work under this contract. Haul roads shall be constructed with suitable grades and widths; sharp curves, blind corners, and dangerous cross traffic shall be avoided. The Contractor shall provide necessary lighting, signs, barricades, and distinctive markings for safe movement of traffic. The method of dust control shall be adequate to ensure safe operation at all times. Location, grade, width, and alignment of construction and hauling roads shall be subject to approval by the Contracting Officer. Lighting shall be adequate to assure full and clear visibility for full width of haul road and work areas during any night work operations. Upon completion of the work, haul roads shall be removed unless otherwise approved by the Contracting Officer. Any dirt or mud which is tracked onto paved or surfaced roadways shall be promptly cleaned away.

#### 1.4.6 Identification of Employees

The Contractor shall be responsible for requiring each employee engaged on the work to wear a hardhat with labeling as required to identify that the person is an employee of the Contractor or to display other identification as may be approved.

#### 1.4.7 Layout of Work and Surveys

#### 1.4.7.1 Layout of Work

The following requirements are in addition to the requirements of CLAUSE titled "LAYOUT OF WORK." The Government has established bench marks and horizontal control points at the site of the work. Horizontal control points and descriptions of bench marks are shown on the drawings and on sheets enclosed in SECTION 01999. The elevations of bench marks are referred to mean water level (IGLD 1955).

#### 1.4.7.2 Surveyor Requirements

From these control points and bench marks, the Contractor shall lay out the work by establishing all lines, grades, range markers and gauges at the site as necessary to control the work. The Contractor shall obtain the services of a surveyor registered in the state of Wisconsin for the layout work. All survey work shall meet the minimum requirements for third-order control in accordance with the American Congress on Surveying and Mapping, 1978 Edition, of "Definition of Surveying and Associated Terms, Appendix D, Tables I, II and III." All additional stakes and markers as may be necessary for control and guidance of the Contractor's construction operations shall be placed and established under the direction of the registered surveyor. All survey information shall be recorded in accordance with standard and approved methods and in the survey note format approved by the Contracting Officer. All field notes, sketches, recordings and computations made by the Contractor in performing the layout work shall be available at all times during the progress of the work for ready examination by the Contracting Officer or his or her duly authorized representative and upon completion of the contract work the originals shall be turned over to the Contracting Officer in ring binders.

#### 1.4.7.3 Suspension

The Contracting Officer may require that work be suspended at any time when location and limit marks established by the Contractor are not reasonably adequate to permit checking the work. Such suspension will be withdrawn upon satisfactory replacement of location and limit marks. Such suspension shall be at no additional cost to the Government and shall not entitle the Contractor to an extension of time for completing the work.

#### 1.4.7.4 Verification

The Government may make checks as the work progresses to verify lines and grades established by the Contractor and to determine the conformance of the completed work as it progresses with the requirements of contract specifications and drawings. Such checking by the Contracting Officer or his or her representative shall not relieve the Contractor of its responsibility to perform all work in accordance with the contract drawings and specifications and the lines and grades given therein.

### 1.5 SEQUENCING AND SCHEDULING

#### 1.5.1 Start Work

Evidence that the Contractor has started procurement of materials,

preparation and submission of shop drawings, preparation of subcontracts, and other preparatory work will satisfy the requirement that work commence within ten (10) calendar days after receipt of Notice to Proceed. (See Clause titled COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK, FAR 52.212-0003.)

## 1.6 REPORT REQUIREMENTS

### 1.6.1 Accident Prevention Plan

Contractor shall provide an accident prevention plan including an activity hazard analysis to the Contracting Officer within 15 calendar days after receipt of award. Plan shall be in accordance with Contract Clause entitled "ACCIDENT PREVENTION (NOV 1991) - ALTERNATE 1.

### 1.6.2 Payrolls and Basic Records

Contractor shall submit payrolls and basic records in accordance with the CLAUSE entitled "PAYROLLS AND BASIC RECORDS (FEB 1988)".

### 1.6.3 Progress Chart

Contractor shall submit progress chart in accordance with the Contract clause entitled "SCHEDULE FOR CONSTRUCTION CONTRACTS (APR 1984)".

## PART 2 PRODUCTS

### 2.1 MATERIALS

#### 2.1.1 Use of Materials from Non-Listed, Non-Commercially Active Sources

If after award of the contract, the Contractor proposes to use sand, granular or aggregate materials for fill from a non-commercially active source or sources, the Contractor shall submit data as required in the Paragraph entitled "SUBMITTALS". The data shall be accompanied by a request for approval. Non-listed, non-commercially active stone or material sources shall not be used unless the proposal and use of the source(s) are approved by the Contracting Officer in accordance with applicable provisions of the contract. All expenses incurred by the Government and the Contractor in connection with the Contractor's request for approval for the use of materials from non-listed, non-commercially active sources shall be borne by the Contractor and all use of such materials and all operations in connection therewith shall be at the Contractor's risk. No extension of the time for completion of the work will be granted as the result of disapproval or approval of the Contractor's request to use a non-listed, non-commercially active source or sources. If not approved, the Contractor shall use materials from the applicable listed or commercially active source(s).

### 2.2 AS-BUILT DRAWINGS

The as-built drawing details shall be accurate and of professional quality prepared those with adequate as-built technician's qualifications.

PART 3 EXECUTION (NOT APPLICABLE)

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SECTION 01101

REAL ESTATE

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PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

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## SECTION 01101

## REAL ESTATE

## PART 1 GENERAL

## 1.1 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

## SD-01 Preconstruction Submittals

Additional Property Agreements; G-RED.

Copies of any agreements for Contractor-acquired real estate rights for this project shall be furnished before entering thereon.

## 1.2 REGULATORY REQUIREMENTS

## 1.2.1 Real Estate Rights

The Government owns the Government-furnished work and storage areas as shown on the contract drawings. Copies of instruments conveying rights for use of the work and storage areas shown on the drawings and specified herein are available for inspection in the Engineering & Construction Division, Design Branch, U.S. Army Corps of Engineers, Detroit District, 477 Michigan Avenue, McNamara Building, Detroit, Michigan. Conformance to all applicable requirements of the instruments conveying rights is required. Two (2) copies of each instrument will be furnished to the Contractor. All real estate riverward of the Ordinary High Water Mark is under Federal jurisdiction and no real estate permit or agreements are necessary for work therein.

## 1.2.2 Additional Real Estate Rights

Any additional property agreements and/or real estate rights desired by the Contractor shall be obtained by the Contractor at its own expense. Such agreements shall clearly relieve the Government of any responsibility for damages or liability resulting from the Contractor's use of such grounds.

## 1.3 PROJECT/SITE CONDITIONS

## 1.3.1 Location and Verification

It shall be the Contractor's responsibility to accurately locate the limits of all lands utilized under the contract. The corner and angle points of each area for which rights have been obtained shall be marked with semipermanent markers except where there is an approved existing property marker. Temporary markers shall be placed at points on alignment. The points on alignment shall be marked at stations so that intervals between points do not exceed 200 feet.

### 1.3.2 Survey Markers

All markers shall be installed in an area prior to its use and they shall be available for reference during and upon completion of use of the area. Where approved existing property markers are found, a witness stake, as specified in Subparagraph, "Semipermanent Markers" below, shall be provided. If the types of markers specified hereinafter cannot be used, other types, as approved by the Contracting Officer, shall be provided.

#### 1.3.2.1 Semipermanent Markers

The markers shall be a steel rod one-half inch in diameter and four (4) feet long. The steel rod shall be driven vertically into the ground so that the top is flush with the finished ground surface. Each marker shall be witnessed by a 2" x 2" yellow stake extending two (2) feet above the ground surface and driven into the ground until stable, with not less than one (1) foot penetration.

#### 1.3.2.2 Temporary Markers

Markers shall be 2" x 2", red-colored, wood hub stakes driven into the ground until stable (not less than one (1) foot penetration) with two (2) feet projecting above the ground surface. If the period in which temporary markers are to be in place exceeds one (1) construction season, a more permanent type of marker, as approved, shall be provided.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

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## SECTION 01130

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## SECTION 01130

## ENVIRONMENTAL PROTECTION

## PART 1 GENERAL

## 1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

## CODE OF FEDERAL REGULATIONS (CFR)

40 CFR 261 Identification and listing of Hazardous Waste

## ENGINEERING MANUALS (EM)

EM 385-1-1 (3 Nov. 2003) U.S. Army Corps of Engineers Safety and Health Requirements Manual

## 1.2 DEFINITIONS

Environmental pollution and damage is defined as the presence of chemical, physical, or biological elements or agents that adversely affect human health or welfare; unfavorably alter ecological balances of plant or animal communities; or degrade the environment from an aesthetic, cultural or historic perspective. Environmental protection is the prevention/control of pollution and habitat disruption that may occur during construction. The control of environmental pollution and damage requires consideration of air, water, land, biological and cultural resources (archaeological and historic resources); and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive materials; and other pollutants.

## 1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01130 SUBMITTAL PROCEDURES:

## SD-01 Preconstruction Submittals

Environmental Protection Plan; G-AOF.

Submit in writing an Environmental Protection Plan within ten (10) calendar days after receipt of Notice to Proceed. See Article titled ENVIRONMENTAL PROTECTION PLAN for details.

## 1.4 ENVIRONMENTAL PROTECTION REQUIREMENTS

The Contractor shall be knowledgeable of and comply with all applicable Federal, State, and local laws, regulations, permits and licenses

concerning environmental protection, pollution control and abatement that are applicable to the Contractor's proposed operations. Note any unique requirements for this contract in the environmental pollution control plan. Also see Clauses titled "CLEAN AIR AND WATER" and "PERMITS AND RESPONSIBILITIES." The Contractor shall provide environmental protective measures and procedures to prevent and control pollution, limit habitat disruption, and correct environmental damage that occurs during construction.

#### 1.4.1 Protection of Features

This section supplements the Contract Clause PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS. The Contractor shall prepare a list of features requiring protection under the provisions of the contract clause which are not specially identified on the drawings as environmental features requiring protection. The Contractor shall confine its activities to areas defined by the drawings and specifications. The Contractor shall protect those environmental features, indicated specially on the drawings or in the specifications, in spite of interference which their preservation may cause to the Contractor's work under the contract.

#### 1.4.2 Permits

The Contractor shall obtain any necessary permits and licenses that have not been obtained by the Government. This section supplements the Contractor's responsibility under the contract clause PERMITS AND RESPONSIBILITIES to the extent that the Government has already obtained environmental permits.

### 1.5 ENVIRONMENTAL PROTECTION PLAN

The Contractor shall submit an Environmental Protection Plan for review and acceptance by the Contracting Officer. The Government will consider an interim plan for the first 30 days of operations. However, the Contractor shall furnish an acceptable final plan not later than 30 calendar days after receipt of the Notice to Proceed. Acceptance is conditional and is predicated upon satisfactory performance during construction. The Government reserves the right to require the Contractor to make changes in the Environmental Protection Plan or operations if the Contracting Officer determines that environmental protection requirements are not being met. The plan shall detail the actions which the Contractor shall take to comply with all applicable Federal, State, and local laws and regulations concerning environmental protection and pollution control and abatement, as well as the additional specific requirements of this contract. The Contractor shall refer to the applicable existing environmental documentation to ensure that the natural, historic, and cultural resources specific or unique to this project are protected. Any necessary coordination with and/or notices to all interested agencies and the public have been made by the Government for environmental documentation prepared by the Government. Copies of the documents are available for review at the offices of the Detroit District, Programs and Project Management Division, Environmental Analysis Branch, 7th Floor, 477 Michigan Avenue, Detroit, MI 48226. No physical work at the site shall begin prior to acceptance of the Contractor's plan or an interim plan covering the work to be performed. The environmental protection plan shall include, but not be limited to, the following:

#### 1.5.1 Federal, State and Local Laws and Regulations

The Contractor shall be knowledgeable of all Federal, State and local environmental laws and regulations which apply to the construction operations under the Contract and shall list any unique requirements applicable to this contract as part of the Environmental Protection Plan.

#### 1.5.2 Spill Control Plan

The Contractor shall include as part of the Environmental Protection Plan, a Spill Control Plan. The plan shall include the procedures, instructions, and reports to be used in the event of an unforeseen spill of a substance regulated by the Emergency Response and Community Right-to-Know Act or regulated under State or local laws or regulations. The Spill Control Plan supplements the requirements of EM 385-1-1. This plan shall include as a minimum:

- a. The name of the individual who will be responsible for implementing and supervising the containment and cleanup.
- b. Training requirements for Contractor's personnel and methods of accomplishing the training.
- c. A list of materials and equipment to be immediately available at the job site, tailored to cleanup work of the potential hazard(s) identified.
- d. The names and locations of suppliers of containment materials and locations of additional fuel oil recovery, cleanup, restoration, and material-placement equipment available in case of an unforeseen spill emergency.
- e. The methods and procedures to be used for expeditious contaminant cleanup.
- f. The name of the individual who will report any spills or hazardous substance releases and who will follow up with complete documentation. This individual shall immediately notify the Contracting Officer in addition to the legally required Federal, State, and local reporting channels (including the National Response Center 1-800-424-8802) if a reportable quantity spill occurs. The plan shall contain a list of the required reporting channels and telephone numbers.

#### 1.5.3 Recycling and Waste Minimization Plan

The Contractor shall submit a Recycling and Waste Minimization Plan as a part of the Environmental Protection Plan. The plan shall detail the Contractor's actions to comply with the following recycling and waste minimization requirements:

- a. The Contractor shall participate in State and local government sponsored recycling programs to reduce the volume of solid waste materials at the source.

#### 1.5.4 Contaminant Prevention Plan

As a part of the Environmental Protection Plan, the Contractor shall prepare a contaminant prevention statement identifying potentially hazardous substances to be used on the job site and intended actions to prevent accidental or intentional introduction of such materials into the



air, water, or ground. The Contractor shall detail provisions to be taken to meet Federal, State, and local laws and regulations regarding the storage and handling of these materials.

#### 1.5.5 Environmental Monitoring

The Contractor shall include in the plan the details of environmental monitoring requirements under the laws and regulations and a description of how this monitoring will be accomplished, including, but not limited to, monitoring of land, air, and water resources, including noise, odors and vibrations.

### PART 2 PRODUCTS (NOT APPLICABLE)

### PART 3 EXECUTION

#### 3.1 SPECIAL ENVIRONMENTAL PROTECTION REQUIREMENTS

##### 3.1.1 Work Area Limits

Prior to any construction, the Contractor shall mark the areas where the work is to be performed under this contract. Isolated areas within the general work area which are to be saved and protected shall also be marked or fenced. Monuments and markers shall be protected before construction operations commence. Where construction operations are to be conducted during darkness, the markers shall be visible during darkness. The Contractor shall convey to its personnel the purpose of marking and/or protection of all necessary objects.

##### 3.1.2 Protection of Landscape

Trees, shrubs, vines, grasses, land forms and other landscape features to be preserved, indicated and defined on the drawings submitted by the Contractor as a part of the Environmental Protection Plan shall be clearly identified by marking, fencing, or wrapping with boards, or any other approved techniques. Vegetated soil surfaces disturbed by construction activities shall be re-vegetated as soon as practicable after completing operations in the disturbed area.

##### 3.1.2.1 Tree Protection

No ropes, cables, or guys shall be fastened to or attached to any tree(s) for anchorage unless specifically authorized by the Contracting Officer. Where such special use is permitted, the Contractor shall provide effective protection to prevent damage to the tree and other land and vegetative resources. Unless specifically authorized by the Contracting Officer, no construction equipment or materials shall be placed or used within the drip line of trees shown on the drawings to be saved. No excavation or fill shall be permitted within the drip line of trees to be saved except as shown on the drawings.

##### 3.1.3 Reduction of Exposure of Unprotected Erodible Soils

Earthwork brought to final grade shall be finished as indicated and specified. Where stormwater/erosion control requirements of the drawings and specifications conflict with those of the NPDES Permit for Stormwater Discharges from Construction Sites (if such permit is required), the NPDES permit requirement will prevail. Side slopes and back slopes shall be protected as soon as practicable upon completion of rough grading. All

earthwork shall be planned and conducted to minimize the duration of exposure of unprotected soils. Except in instances where the constructed features obscures borrow areas, quarries and waste material areas, these areas shall not initially be cleared in total. Clearing of such areas shall progress in reasonably sized increments as needed to use the areas developed as approved by the Contracting Officer.

#### 3.1.3.1 Temporary Protection of Disturbed Areas

Such methods as necessary shall be utilized to effectively prevent erosion and control sedimentation.

##### a. Retardation and Control of Runoff

Runoff from the construction site shall be controlled by construction of diversion ditches, benches, and berms to retard and divert runoff to protected drainage courses, and the Contractor shall also utilize any measure required by area-wide plans approved under Section 208 of the Clean Water Act.

#### 3.1.3.2 Erosion and Sedimentation Control Devices

The Contractor shall construct or install all temporary erosion and sedimentation control features as may be required. Temporary erosion and sediment control measures such as berms, dikes, drains, sedimentation basins, plastic sheeting or geotextile over staked straw bales, grassing and mulching shall be maintained until permanent drainage and erosion control facilities are completed and operative.

#### 3.1.4 U.S. Department of Agriculture (USDA) Quarantined Considerations

The Contractor shall thoroughly clean all construction equipment at the prior job site in a manner that ensures all residual soil is removed and that egg deposits from plant pests are not present to prevent the spread of non-indigenous and/or pest species. The Contractor shall consult with the USDA Plant Protection and Quarantine (USDA - PPQ) jurisdictional office for additional cleaning requirements that may be necessary.

##### 3.1.4.1 Control of Non-Indigenous Aquatic Nuisance Species

The Contractor shall conduct diligent watercraft operating practices to prevent the spread of Non-Indigent Aquatic Nuisance Species (ANS). Such practices shall include, but not be limited to, cleaning equipment on-site to prevent the spread of seeds, eggs, larvae, or other dispersal vectors (e.g. do not transport soil and plant matter from one location to another); and discharging or exchanging ballast water or other water from a vessel of any type only at a location where the chances for survival of ANS are minimal, such as at cold, deep regions of shore.

#### 3.1.5 Commercial Borrow

Prior to bringing commercially obtained borrow material on site, the Contractor shall provide the Contracting Officer with the location of the pit or pits, the names of the owners and operators, and the types and estimated quantities of materials to be obtained from each source.

#### 3.1.6 Disposal of Waste Materials

Disposal of any materials, waste, effluents, trash, garbage, unsatisfactory

excavated materials, oil, grease, chemicals, etc., in areas adjacent to streams, rivers, or lakes and in areas not authorized for waste disposal shall not be permitted. If any waste material is dumped or placed in unauthorized areas, the Contractor shall remove the material and restore the area to the condition of the adjacent undisturbed area. If necessary, ground which has become contaminated through the fault or negligence of the Contractor shall be excavated, disposed of as directed by the Contracting Officer, and replaced with suitable fill material compacted and finished with topsoil and planted as required to re-establish vegetation, all at the expense of the Contractor. Disposal of waste, trash and other materials off the project site shall be in accordance with all applicable Federal, State, and local laws, rules and regulations. Removed vegetation, including trees, shall be put to beneficial reuse and not placed into landfills.

#### 3.1.6.1 Disposal of Solid Wastes

Solid waste is rubbish, debris, waste materials, garbage, and other discarded solid materials (excluding clearing debris and hazardous waste as defined in following paragraphs). Solid waste shall be placed in containers and disposed of on a regular schedule. All handling and disposal shall be conducted in such a way as to prevent spillage and contamination. The Contractor shall transport all solid waste off Government property and dispose in compliance with Federal, State, and local requirements.

#### 3.1.6.2 Disposal of Boring Materials

The boring materials extracted from the holes shall be disposed off site.

#### 3.1.6.3 Disposal of Chemical Waste

Chemical waste shall be stored in corrosion resistant containers, removed from the work area and disposed of in accordance with Federal, State, and local laws, rules and regulations.

#### 3.1.6.4 Spillages

Special measures shall be taken to prevent chemicals, fuels, oils, greases, bituminous materials, ashes, sawdust, waste washings, herbicides and insecticides, rubbish or sewage, and other pollutants from entering public waters.

#### 3.1.7 Clearing Debris

Clearing debris is trees, tree stumps, tree trimmings, and shrubs, and leaves, vegetative matter, excavated natural materials (e.g., dirt, sand, and rock), and demolition products (e.g., brick, concrete, glass, and metals).

a. The Contractor shall collect trees, tree stumps, tree trimmings, shrubs, leaves, and other vegetative matter; and shall transport from Government property for proper disposal in compliance with Federal, State, and local requirements. The Contractor shall segregate the matter where appropriate for proper disposal. Untreated and unpainted scrap lumber may be disposed of with this debris where appropriate.

b. Excavated natural materials shall be placed in the designated area on the drawings.

c. Demolition products shall be transported from Government property for proper disposal in compliance with Federal, State, and local requirements.

#### 3.1.1.8 Disposal of Contractor Generated Hazardous Wastes

Hazardous wastes are hazardous substances as defined in 40 CFR 261, or as defined by applicable State and local regulations. Hazardous waste generated by construction activities shall be removed from the work area and be disposed in compliance with Federal, State, and local requirements. The Contractor shall segregate hazardous waste from other materials and wastes, and shall protect it from the weather by placing it in a safe covered location; precautionary measures against accidental spillage such as berming or other appropriate measures shall be taken. Hazardous waste shall be removed from Government property within 60 days. Hazardous waste shall not be dumped onto the ground, into storm sewers or open water courses, or into the sanitary sewer system. A copy of the manifest shall be provided to the Contracting Officer for any hazardous waste disposed of under this contract.

#### 3.1.1.9 Fuels and Lubricants

Fueling and lubrication of equipment and motor vehicles shall be conducted in a manner that affords the maximum protection against spills and evaporation. Lubricants and waste oil to be discarded shall be stored in marked corrosion-resistant containers and recycled or disposed in accordance with Federal, State, and local laws and regulations.

#### 3.1.1.10 Hydrocarbons, Carbon Monoxide, and Oxides of Nitrogen and Sulfur

Vapor/gaseous emissions of hydrocarbons, carbon monoxide, oxides of nitrogen and sulfur oxides from equipment shall be controlled to Federal and State limits at all times.

#### 3.1.1.11 Odors

Odors from all construction activities, processing and preparation of shall be controlled at all times.

#### 3.1.1.12 Ground Vibrations

Ground vibrations from construction activities shall be controlled at all times.

#### 3.1.1.14 Protection from Sound Intrusions

The Contractor shall keep construction activities under surveillance and control to minimize damage to the environment by noise. Construction equipment shall be fitted with noise control devices.

### 3.2 PROTECTION OF WATER RESOURCES

The Contractor shall keep construction activities under surveillance, management, and control to avoid pollution of surface and ground waters.

### 3.3 PROTECTION OF FISH AND WILDLIFE RESOURCES

#### 3.3.1 Protection of Fish, Wildlife and Flora

The Contractor shall keep construction activities under surveillance, management and control to minimize interference with, disturbance to and damage of fish, wildlife and flora. Species that require specific attention along with measures for their protection shall be listed by the Contractor prior to beginning construction operations. See Subparagraph titled "Environmental Protection Plan."

### 3.4 PROTECTION OF AIR RESOURCES

Special management techniques as set out below shall be implemented to control air pollution by the construction activities. These techniques supplement the requirements of Federal, State, and local laws and regulations; and the safety requirements under this Contract. If any of the following techniques conflict with the requirements of Federal, State, or local laws or regulations, or safety requirements under this contract, then those requirements shall be followed in lieu of the following.

#### 3.4.1 Particulates

Airborne particulates, including dust particles, aerosols, and gaseous by-products from construction activities and processing and preparation of materials, shall be controlled at all times, including weekends, holidays, and hours when work is not in progress. The Contractor shall maintain all excavations, stockpiles, haul roads, permanent and temporary access roads, plant sites, disposal sites, borrow areas, and all other work areas free from airborne dust which would cause a hazard or nuisance.

### 3.5 INSPECTION

If the Contracting Officer notifies the Contractor in writing of any observed noncompliance with contract requirements or Federal, State, or local laws, regulations, or permits, the Contractor shall inform the Contracting Officer of proposed corrective action and take such action to correct the noncompliance. If the Contractor fails to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action is taken. No time extensions will be granted or costs or damages allowed to the Contractor for any such suspension.

### 3.6 MAINTENANCE OF POLLUTION CONTROL FACILITIES

The Contractor shall maintain all constructed pollution control facilities and portable pollution control devices for the duration of the Contract or for the length of time construction activities create the particular pollutant.

### 3.7 TRAINING OF CONTRACTOR PERSONNEL

Contractor personnel shall be trained in environmental protection and pollution control. The Contractor shall conduct environmental protection/pollution control meetings for all Contractor personnel monthly.

The training and meeting agenda shall include methods of detecting and avoiding pollution, familiarization with pollution standards, both statutory and contractual, installation and care of facilities (vegetative covers, etc.), and instruments required for monitoring purposes to ensure adequate and continuous environmental protection/pollution control. Anticipated hazardous or toxic chemicals or wastes, and other regulated contaminants, shall also be discussed. Other items required to be

discussed shall include recognition and protection of archaeological sites, artifacts, and historic structures.

### 3.8 POST CONSTRUCTION CLEANUP OR OBLITERATION

The Contractor shall obliterate all signs of temporary facilities such as haul roads, work area, structures, stock piles of excess or waste materials, fencing, buoys, stakes, or other vestiges of construction within the work, storage and access areas or as directed by the Contracting Officer. Except for surfaced areas, the areas shall be restored to near natural conditions which will permit the growth of vegetation thereon. In areas where restoration to near natural conditions is not required, surfaces shall be evenly and smoothly dressed, sloped to drain, and the edges of the restored area graded to be flush with the surrounding existing grade even if original contours are not restored. All damaged non-surfaced areas shall be restored by topsoiling, fertilizing, seeding and mulching, unless otherwise specified or directed. The topsoiling, fertilizing, seeding, and mulching shall be in accordance with the applicable provisions of IDOT 1998, DIVISION 600, Section 621 "Seeding and Sodding".

### 3.9 RESTORATION OF LANDSCAPE

The Contractor shall restore all landscape features damaged or destroyed during construction operations outside the limits of the approved work areas. Such restoration shall be in accordance with the Contractor's submitted plan, as approved by the Contracting Officer. The work shall be accomplished at the Contractor's expense.

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## PART 3 EXECUTION (Not Applicable)

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## SECTION 01270A

## MEASUREMENT AND PAYMENT

## PART 1 GENERAL

## 1.1 LUMP SUM PAYMENT ITEMS

Payment items for the work of this contract for which contract lump sum payments will be made are listed in the BIDDING SCHEDULE and described below. All costs for items of work, which are not specifically mentioned to be included in a particular lump sum or unit price payment item, shall be included in the listed lump sum item most closely associated with the work involved. The lump sum price and payment made for each item listed shall constitute full compensation for furnishing all plant, labor, materials, and equipment, and performing any associated Contractor quality control, environmental protection, meeting safety requirements, tests and reports, and for performing all work required for which separate payment is not otherwise provided.

## 1.1.1 "Mobilization and Demobilization" [Item No. 0001]

## 1.1.1.1 Payment

Payment will be made for costs associated with mobilization and demobilization, as defined in Special Clause PAYMENT FOR MOBILIZATION AND DEMOBILIZATION.

## 1.1.1.2 Unit of Measure

Unit of measure: lump sum.

## 1.1.2 "Site Preparation" [Item No. 0002]

## 1.1.2.1 Payment

Payment will be made for costs associated with operations necessary for preparation of the site, which includes relocation of the existing electrical conduit as required in accordance with Section 02139, "SITE PREPARATION".

## 1.1.2.2 Unit of Measure

Unit of measure: lump sum.

## 1.2 UNIT PRICE PAYMENT ITEMS

Payment items for the work of this contract on which the contract unit price payments will be made are listed in the BIDDING SCHEDULE and described below. The unit price and payment made for each item listed shall constitute full compensation for furnishing all plant, labor, materials, and equipment, and performing any associated Contractor quality control, environmental protection, meeting safety requirements, tests and reports, and for performing all work required for each of the unit price items.



## 1.2.1 "Concrete Cap" [Item No. 0003]

## 1.2.1.1 Payment

Payment will be made for costs associated with operations necessary for construction of the concrete cap. This includes, but is not limited to furnishing, delivering, placing, finishing, and curing of concrete for the various items of the schedule, which price shall include the cost of all formwork. Payment for preformed expansion joints, field-molded sealants, waterstops, or wire reinforcement as required in accordance with Section 03200, "CONCRETE REINFORCEMENT" and Section 03307, "CONCRETE FOR MINOR STRUCTURES".

## 1.2.1.2 Unit of Measure

Unit of measure: Cubic Yards.

## 1.2.2 "Misc. Steel - Anchor Bars, Plates and Handrails" [Item No. 0004]

## 1.2.2.1 Payment

Payment will be made for costs associated with operations necessary for installation of reinforcing bars into the structure. This shall include, but not be limited to, drilling the hole, grouting the hole and tensioning the bar as required in accordance with Section 03230, "STEEL STRESSING BARS AND ACCESSORIES".

## 1.2.2.2 Unit of Measure

Unit of measure: Tons.

## 1.2.3 "Grout - Seal, w/f'c = 2,000 psi" [Item No. 0005]

## 1.2.3.1 Payment

Payment will be made for costs associated with the installation of grout inside of the structure, which includes performing required operations incidental thereto as required in accordance with Section 03308, "CEMENT GROUTING".

## 1.2.3.2 Measurement

The total quantity of grout for which payment will be made will be based on actual amount of grout used to seal the structure. The maximum grout quantity was based on the assumption that no more than 60% of the old mortar joints need to be filled with grout. No allowance will be made for grout quantities placed exceeding this limit unless authorized.

## 1.2.3.3 Unit of Measure

Unit of measure: cubic Yard.

## 1.2.4 "Grout - Anchor, w/f'c = 3,500 psi" [Item No. 0006]

## 1.2.4.1 Payment

Payment will be made for costs associated with the installation of anchor grout, which includes performing required operations incidental thereto as

required in accordance with Section 03308, "CEMENT GROUTING".

#### 1.2.4.2 Measurement

The total quantity of grout for which payment will be made is based on the assumption that 180 holes will be filled with anchor grout for anchors based on a 6' hole spacing. No allowance will be made for grout quantities placed exceeding this limit unless authorized.

#### 1.2.4.3 Unit of Measure

Unit of measure: cubic Yard.

#### 1.2.5 "Grout Holes, 3" Diameter" [Item No. 0007]

##### 1.2.5.1 Payment

Payment will be made for costs associated with drilling required 3" diameter holes to be used for grout placement, which is as specified in accordance with Section 03308, "CEMENT GROUTING".

##### 1.2.5.2 Measurement

The total quantity of drill hole length for which payment will be made will be based on the necessary hole pattern arrangement needed to provide a watertight structure. This hole pattern and hole spacing will be adjusted in the field as necessary. The lineal footage of drilling shown in the bid schedule assumes a 6' hole spacing. Drilling quantities above the first subdivided line item quantity covers re-drilling of anchor holes to remove the seal grout and allow placement of anchors and anchor grout.

##### 1.4.1.3 Unit of Measure

Unit of measure: Lineal Feet.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

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## SECTION 01312A

## QUALITY CONTROL SYSTEM (QCS)

## PART 1 GENERAL

## 1.1 GENERAL

The Government will use the Resident Management System for Windows (RMS) to assist in its monitoring and administration of this contract. The Contractor shall use the Government-furnished Construction Contractor Module of RMS, referred to as QCS, to record, maintain, and submit various information throughout the contract period. This joint Government-Contractor use of RMS and QCS will facilitate electronic exchange of information and overall management of the contract. QCS provides the means for the Contractor to input, track, and electronically share information with the Government in the following areas:

Administration

Finances

Quality Control

Submittal Monitoring

Scheduling

Import/Export of Data

## 1.1.1 Correspondence and Electronic Communications

For ease and speed of communications, both Government and Contractor will, to the maximum extent feasible, exchange correspondence and other documents in electronic format. Correspondence, pay requests and other documents comprising the official contract record shall also be provided in paper format, with signatures and dates where necessary. Paper documents will govern, in the event of discrepancy with the electronic version.

## 1.1.2 Other Factors

Particular attention is directed to Contract Clause, "Schedules for Construction Contracts", Contract Clause, "Payments", Section 01330, SUBMITTAL PROCEDURES, and Section 01451A, CONTRACTOR QUALITY CONTROL, which have a direct relationship to the reporting to be accomplished through QCS.

Also, there is no separate payment for establishing and maintaining the QCS database; all costs associated therewith shall be included in the contract pricing for the work.

## 1.2 QCS SOFTWARE

QCS is a Windows-based program that can be run on a stand-alone personal computer or on a network. The Government will make available the QCS software to the Contractor after award of the construction contract. Prior to the Pre-Construction Conference, the Contractor shall be responsible to download, install and use the latest version of the QCS software from the Government's RMS Internet Website. Upon specific justification and request

by the Contractor, the Government can provide QCS on 3-1/2 inch high-density diskettes or CD-ROM. Any program updates of QCS will be made available to the Contractor via the Government RMS Website as they become available.

### 1.3 SYSTEM REQUIREMENTS

The following listed hardware and software is the minimum system configuration that the Contractor shall have to run QCS:

#### **Hardware**

IBM-compatible PC with 500 MHz Pentium or higher processor  
128+ MB RAM for workstation / 256+ MB RAM for server  
1 GB hard drive disk space for sole use by the QCS system  
3 1/2 inch high-density floppy drive  
Compact disk (CD) Reader 8x speed or higher  
SVGA or higher resolution monitor (1024 x 768, 256 colors)  
Mouse or other pointing device  
Windows compatible printer (Laser printer compatible must have 4 MB+ of RAM)  
Connection to the Internet, minimum 56k BPS

#### **Software**

MS Windows 98, ME, NT, or 2000  
Word Processing software compatible with MS Word 97 or newer  
Latest version of: Netscape Navigator, Microsoft Internet Explorer, or other browser that supports HTML 4.0 or higher  
Electronic mail (E-mail) MAPI compatible  
The Contractor's computer system shall be protected by virus protection software that is regularly upgraded with all issued manufacturer's updates throughout the life of the contract.

### 1.4 RELATED INFORMATION

#### 1.4.1 QCS User Guide

After contract award, the Contractor shall download instructions for the installation and use of QCS from the Government RMS Internet Website; the Contractor can obtain the current address from the Government. In case of justifiable difficulties, the Government will provide the Contractor with a CD-ROM containing these instructions.

#### 1.4.2 Contractor Quality Control(CQC) Training

The use of QCS will be discussed with the Contractor's QC System Manager

during the mandatory CQC Training class.

#### 1.5 CONTRACT DATABASE

Prior to the pre-construction conference, the Government shall provide the Contractor with basic contract award data to use for QCS. The Government will provide data updates to the Contractor as needed, generally by files attached to E-mail. These updates will generally consist of submittal reviews, correspondence status, QA comments, and other administrative and QA data.

#### 1.6 DATABASE MAINTENANCE

The Contractor shall establish, maintain, and update data for the contract in the QCS database throughout the duration of the contract. The Contractor shall establish and maintain the QCS database at the Contractor's site office. Data updates to the Government shall be submitted by E-mail with file attachments, e.g., daily reports, schedule updates, payment requests. If permitted by the Contracting Officer, a data diskette or CD-ROM may be used instead of E-mail (see Paragraph DATA SUBMISSION VIA COMPUTER DISKETTE OR CD-ROM). The QCS database typically shall include current data on the following items:

##### 1.6.1 Administration

###### 1.6.1.1 Contractor Information

The database shall contain the Contractor's name, address, telephone numbers, management staff, and other required items. Within 14 calendar days of receipt of QCS software from the Government, the Contractor shall deliver Contractor administrative data in electronic format via E-mail.

###### 1.6.1.2 Subcontractor Information

The database shall contain the name, trade, address, phone numbers, and other required information for all subcontractors. A subcontractor must be listed separately for each trade to be performed. Each subcontractor/trade shall be assigned a unique Responsibility Code, provided in QCS. Within 14 calendar days of receipt of QCS software from the Government, the Contractor shall deliver subcontractor administrative data in electronic format via E-mail.

###### 1.6.1.3 Correspondence

All Contractor correspondence to the Government shall be identified with a serial number. Correspondence initiated by the Contractor's site office shall be prefixed with "S". Letters initiated by the Contractor's home (main) office shall be prefixed with "H". Letters shall be numbered starting from 0001. (e.g., H-0001 or S-0001). The Government's letters to the Contractor will be prefixed with "C".

###### 1.6.1.4 Equipment

The Contractor's QCS database shall contain a current list of equipment planned for use or being used on the jobsite, including the most recent and planned equipment inspection dates.

###### 1.6.1.5 Management Reporting

QCS includes a number of reports that Contractor management can use to track the status of the project. The value of these reports is reflective of the quality of the data input, and is maintained in the various sections of QCS. Among these reports are: Progress Payment Request worksheet, QA/QC comments, Submittal Register Status, Three-Phase Inspection checklists.

#### 1.6.2 Finances

##### 1.6.2.1 Pay Activity Data

The QCS database shall include a list of pay activities that the Contractor shall develop in conjunction with the construction schedule. The sum of all pay activities shall be equal to the total contract amount, including modifications. Pay activities shall be grouped by Contract Line Item Number (CLIN), and the sum of the activities shall equal the amount of each CLIN. The total of all CLINs equals the Contract Amount.

##### 1.6.2.2 Payment Requests

All progress payment requests shall be prepared using QCS. The Contractor shall complete the payment request worksheet and include it with the payment request. The work completed under the contract, measured as percent or as specific quantities, shall be updated at least monthly. After the update, the Contractor shall generate a payment request report using QCS. The Contractor shall submit the payment requests with supporting data by E-mail with file attachment(s). If permitted by the Contracting Officer, a data diskette may be used instead of E-mail. A signed paper copy of the approved payment request is also required, which shall govern in the event of discrepancy with the electronic version.

#### 1.6.3 Quality Control (QC)

QCS provides a means to track implementation of the 3-phase QC Control System, prepare daily reports, identify and track deficiencies, document progress of work, and support other contractor QC requirements. The Contractor shall maintain this data on a daily basis. Entered data will automatically output to the QCS generated daily report. The Contractor shall provide the Government a Contractor Quality Control (CQC) Plan within the time required in Section 01451A, CONTRACTOR QUALITY CONTROL. Within seven calendar days of Government acceptance, the Contractor shall submit a data diskette or CD-ROM reflecting the information contained in the accepted CQC Plan: schedule, pay activities, features of work, submittal register, QC requirements, and equipment list.

##### 1.6.3.1 Daily Contractor Quality Control (CQC) Reports.

QCS includes the means to produce the Daily CQC Report. The Contractor may use other formats to record basic QC data. However, the Daily CQC Report generated by QCS shall be the Contractor's official report. Data from any supplemental reports by the Contractor shall be summarized and consolidated onto the QCS-generated Daily CQC Report. Daily CQC Reports shall be submitted as required by Section 01451A, CONTRACTOR QUALITY CONTROL. Reports shall be submitted electronically to the Government using E-mail or diskette within 24 hours after the date covered by the report. Use of either mode of submittal shall be coordinated with the Government representative. The Contractor shall also provide the Government a signed, printed copy of the daily CQC report.

##### 1.6.3.2 Deficiency Tracking.

The Contractor shall use QCS to track deficiencies. Deficiencies identified by the Contractor will be numerically tracked using QC punch list items. The Contractor shall maintain a current log of its QC punch list items in the QCS database. The Government will log the deficiencies it has identified using its QA punch list items. The Government's QA punch list items will be included in its export file to the Contractor. The Contractor shall regularly update the correction status of both QC and QA punch list items.

#### 1.6.3.3 Three-Phase Control Meetings

The Contractor shall maintain scheduled and actual dates and times of preparatory and initial control meetings in QCS.

#### 1.6.3.4 Accident/Safety Tracking.

The Government will issue safety comments, directions, or guidance whenever safety deficiencies are observed. The Government's safety comments will be included in its export file to the Contractor. The Contractor shall regularly update the correction status of the safety comments. In addition, the Contractor shall utilize QCS to advise the Government of any accidents occurring on the jobsite. This brief supplemental entry is not to be considered as a substitute for completion of mandatory reports, e.g., ENG Form 3394 and OSHA Form 200.

#### 1.6.3.5 Features of Work

The Contractor shall include a complete list of the features of work in the QCS database. A feature of work may be associated with multiple pay activities. However, each pay activity (see subparagraph "Pay Activity Data" of paragraph "Finances") will only be linked to a single feature of work.

#### 1.6.3.6 QC Requirements

The Contractor shall develop and maintain a complete list of QC testing, transferred and installed property, and user training requirements in QCS. The Contractor shall update all data on these QC requirements as work progresses, and shall promptly provide this information to the Government via QCS.

#### 1.6.4 Submittal Management

The Government will provide the initial submittal register, ENG Form 4288, SUBMITTAL REGISTER, in electronic format. Thereafter, the Contractor shall maintain a complete list of all submittals, including completion of all data columns. Dates on which submittals are received and returned by the Government will be included in its export file to the Contractor. The Contractor shall use QCS to track and transmit all submittals. ENG Form 4025, submittal transmittal form, and the submittal register update, ENG Form 4288, shall be produced using QCS. RMS will be used to update, store and exchange submittal registers and transmittals, but will not be used for storage of actual submittals.

#### 1.6.5 Schedule

The Contractor shall develop a construction schedule consisting of pay activities, in accordance with Contract Clause "Schedules for Construction



Contracts", or as applicable. This schedule shall be input and maintained in the QCS database either manually or by using the Standard Data Exchange Format (SDEF). The updated schedule data shall be included with each pay request submitted by the Contractor.

#### 1.6.6 Import/Export of Data

QCS includes the ability to export Contractor data to the Government and to import submittal register and other Government-provided data, and schedule data using SDEF.

#### 1.7 IMPLEMENTATION

Contractor use of QCS as described in the preceding paragraphs is mandatory. The Contractor shall ensure that sufficient resources are available to maintain its QCS database, and to provide the Government with regular database updates. QCS shall be an integral part of the Contractor's management of quality control.

#### 1.8 DATA SUBMISSION VIA COMPUTER DISKETTE OR CD-ROM

The Government-preferred method for Contractor's submission of updates, payment requests, correspondence and other data is by E-mail with file attachment(s). For locations where this is not feasible, the Contracting Officer may permit use of computer diskettes or CD-ROM for data transfer. Data on the disks or CDs shall be exported using the QCS built-in export function. If used, diskettes and CD-ROMs will be submitted in accordance with the following:

##### 1.8.1 File Medium

The Contractor shall submit required data on 3-1/2 inch double-sided high-density diskettes formatted to hold 1.44 MB of data, capable of running under Microsoft Windows 95 or newer. Alternatively, CD-ROMs may be used. They shall conform to industry standards used in the United States. All data shall be provided in English.

##### 1.8.2 Disk or CD-ROM Labels

The Contractor shall affix a permanent exterior label to each diskette and CD-ROM submitted. The label shall indicate in English, the QCS file name, full contract number, contract name, project location, data date, name and telephone number of person responsible for the data.

##### 1.8.3 File Names

The Government will provide the file names to be used by the Contractor with the QCS software.

#### 1.9 MONTHLY COORDINATION MEETING

The Contractor shall update the QCS database each workday. At least monthly, the Contractor shall generate and submit an export file to the Government with schedule update and progress payment request. As required in Contract Clause "Payments", at least one week prior to submittal, the Contractor shall meet with the Government representative to review the planned progress payment data submission for errors and omissions. The Contractor shall make all required corrections prior to Government acceptance of the export file and progress payment request. Payment

requests accompanied by incomplete or incorrect data submittals will be returned. The Government will not process progress payments until an acceptable QCS export file is received.

#### 1.10 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer will notify the Contractor of any detected noncompliance with the requirements of this specification. The Contractor shall take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the work site, shall be deemed sufficient for the purpose of notification.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

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## SECTION 01330

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## SECTION 01330

## SUBMITTAL PROCEDURES

## PART 1 GENERAL

## 1.1 SUMMARY

## 1.1.1 Government-Furnished Information

Submittal register will be delivered to the contractor, by contracting officer on 3 1/2 inch disk. Register will have the following fields completed, to the extent that will be required by the Government during subsequent usage.

Column (c): Lists specification section in which submittal is required.

Column (d): Lists each submittal description (SD No. and type, e.g. SD-04 Drawings) required in each specification section.

Column (e): Lists one principal paragraph in specification section where a material or product is specified. This listing is only to facilitate locating submitted requirements. Do not consider entries in column (e) as limiting project requirements.

Column (f): Indicate approving authority for each submittal. A "G" indicates approval by contracting officer; a blank indicates approval by QC manager.

## 1.2 DEFINITIONS

## 1.2 Submittal

Shop drawings, product data, samples, and administrative submittals presented for review and approval. Contract Clauses "FAR 52.236-5, Material and Workmanship," paragraph (b) and "FAR 52.236-21, Specifications and Drawings for Construction," paragraphs (d), (e), and (f) apply to all "submittals."

## 1.3 Types of Submittals

All submittals are classified as indicated in paragraph "Submittal Descriptions (SD)". Submittals also are grouped as follows:

- a. Shop drawings: As used in this section, drawings, schedules, diagrams, and other data prepared specifically for this contract, by contractor or through contractor by way of subcontractor, manufacturer, supplier, distributor, or other lower tier contractor, to illustrate portion of work.
- b. Product data: Preprinted material such as illustrations, standard schedules, performance charts, instructions, brochures, diagrams, manufacturer's descriptive literature, catalog data, and other data to illustrate portion of work, but not prepared exclusively for this contract.

- c. Samples: Physical examples of products, materials, equipment, assemblies, or workmanship that are physically identical to portion of work, illustrating portion of work or establishing standards for evaluating appearance of finished work or both.
- d. Administrative submittals: Data presented for reviews and approval to ensure that administrative requirements of project are adequately met but not to ensure directly that work is in accordance with design concept and in compliance with contract documents.

#### 1.4 Submittal Descriptions (SD)

##### SD-01 Preconstruction Submittals

Certificates of insurance

Surety bonds

List of proposed subcontractors

List of proposed products

Construction Progress Schedule

Submittal schedule

Schedule of values

Health and safety plan

Work plan

Quality control plan

Environmental protection plan

##### SD-02 Shop Drawings

Drawings, diagrams and schedules specifically prepared to illustrate some portion of the work.

Diagrams and instructions from a manufacturer or fabricator for use in producing the product and as aids to the contractor for integrating the product or system into the project.

Drawings prepared by or for the contractor to show how multiple systems and interdisciplinary work will be coordinated.

##### SD-03 Product Data

Catalog cuts, illustrations, schedules, diagrams, performance charts, instructions and brochures illustrating size, physical appearance and other characteristics of materials or equipment for some portion of the work.

Samples of warranty language when the contract requires extended product warranties.

##### SD-06 Test Reports

Report signed by authorized official of testing laboratory that a material, product or system identical to the material, product or system to be provided has been tested in accord with specified requirements. (Testing must have been within three years of date of contract award for the project.)

Report which includes findings of a test required to be performed by the contractor on an actual portion of the work or prototype prepared for the project before shipment to job site.

Report which includes finding of a test made at the job site or on sample taken from the job site, on portion of work during or after installation.

Investigation reports

Daily checklists

Final acceptance test and operational test procedure

#### SD-07 Certificates

Statements signed by responsible officials of manufacturer of product, system or material attesting that product, system or material meets specification requirements. Must be dated after award of project contract and clearly name the project.

Document required of Contractor, or of a supplier, installer or subcontractor through Contractor, the purpose of which is to further quality of orderly progression of a portion of the work by documenting procedures, acceptability of methods or personnel qualifications.

Confined space entry permits.

#### 1.5 SUBMITTAL CLASSIFICATION

Submittals are identified with submittal description (SD) numbers and are classified as follows:

##### 1.5.1 Government Approved

Governmental approval is required for extensions of design, critical materials, deviations, equipment whose compatibility with the entire system must be checked, and other items as designated by the Contracting Officer. Within the terms of the Contract Clause entitled "Specifications and Drawings for Construction," they are considered to be "shop drawings."

##### 1.5.2 Designated Reviewers

The organization designated to perform the review for approval for items requiring Government approval (G) is identified by acronym in the REVIEWER column on the SUBMITTAL REGISTER, ENG FORM 4288 or ENG FORM 4288 (RMS). Following is a list of the acronyms used and their full description:

AOF = The Resident U.S. Army Corps of Engineers Area Office

RED = Real Estate Division, Detroit District, U.S. Army Corps of Engineers

AEN = The Architect/Engineer firm that designed the project

ECD = Engineering and Construction Division, Detroit District, U.S.  
Army Corps of Engineers

#### 1.6 APPROVED SUBMITTALS

The Contracting Officer's approval of submittals shall not be construed as a complete check, but will indicate only that the general method of construction, materials, detailing and other information are satisfactory. Approval will not relieve the Contractor of the responsibility for any error which may exist, as the Contractor under the Contractor Quality Control (CQC) requirements of this contract is responsible for dimensions, the design of adequate connections and details, and the satisfactory construction of all work. After submittals have been approved by the Contracting Officer, no resubmittal for the purpose of substituting materials or equipment will be considered unless accompanied by an explanation of why a substitution is necessary.

#### 1.7 DISAPPROVED SUBMITTALS

When a submittal is returned to the Contractor and marked "DISAPPROVED" or "APPROVED AS NOTED, REVISE AND RESUBMIT", the Contractor shall make all corrections required by the Contracting Officer and promptly furnish a corrected submittal in the form and number of copies specified for the initial submittal. If the Contractor considers any correction indicated on the submittals to constitute a change to the contract, a notice in accordance with the Contract Clause "Changes" shall be given promptly to the Contracting Officer.

#### 1.8 WITHHOLDING OF PAYMENT

Payment for materials incorporated in the work will not be made if required approvals have not been obtained.

#### PART 2 PRODUCTS (Not Applicable)

#### PART 3 EXECUTION3.1 GENERAL

The Contractor shall make submittals as required by the specifications. The Contracting Officer may request submittals in addition to those specified when deemed necessary to adequately describe the work covered in the respective sections. Units of weights and measures used on all submittals shall be the same as those used in the contract drawings. Submittals shall be made in the required number of copies and to the applicable Area Office. Each submittal shall be complete and in sufficient detail to allow ready determination of compliance with contract requirements. Prior to submittal, all items shall be checked and stamped in accordance with ARTICLE titled STAMPS, and approved by the CQC representative. Each respective transmittal form (ENG FORM 4025) shall be signed and dated by the CQC representative certifying that the accompanying submittal complies with the contract requirements. Proposed deviations from the contract requirements shall be clearly identified. Submittals shall include items such as: Contractor's, manufacturer's, or fabricator's drawings; descriptive literature including (but not limited to) catalog cuts, diagrams, operating charts or curves; test reports; test cylinders; samples; O&M manuals (including parts list); certifications; warranties; and other such required submittals. Submittals requiring Government approval shall be scheduled and made prior to the acquisition of the

material or equipment covered thereby. Samples remaining upon completion of the work shall be picked up and disposed of in accordance with manufacturer's Material Safety Data Sheets (MSDS) and in compliance with existing laws and regulations.

### 3.2 SUBMITTAL REGISTER (ENG FORM 4288)

In Section 01999, is one set of ENG Form 4288 listing items of equipment and materials for which submittals are required by the specifications; this list may not be all inclusive and additional submittals may be required. The Contractor will also be given the submittal register as a diskette containing the computerized ENG Form 4288 and instructions on the use of the diskette. Columns "d" through "r" have been completed by the Government; the Contractor shall complete columns "a" and "s" through "u" and submit the forms (hard copy plus associated electronic file) to the Contracting Officer for approval within 10 calendar days after receipt of the Notice to Proceed. The Contractor shall keep this diskette up-to-date and shall submit it to the Government together with the monthly payment request. The approved submittal register will become the scheduling document and will be used to control submittals throughout the life of the contract. The submittal register and the progress schedules shall be coordinated.

### 3.3 SCHEDULING

Submittals covering component items forming a system or items that are interrelated shall be scheduled to be coordinated and submitted concurrently. Certifications to be submitted with the pertinent drawings shall be so scheduled. Adequate time (a minimum of 10 calendar days exclusive of mailing time) shall be allowed and shown on the register for review and approval. No delay damages or time extensions will be allowed for time lost in late submittals. An additional 5 calendar days shall be allowed and shown on the register for review and approval of submittals for refrigeration and HVAC control systems.

### 3.4 TRANSMITTAL FORM (ENG FORM 4025)

The sample transmittal form (ENG Form 4025) enclosed in SECTION 01999 shall be used for submitting both Government approved and information only submittals in accordance with the instructions on the reverse side of the form. These forms will be furnished to the Contractor, or may be copied from the enclosed form. This form shall be properly completed by filling out all the heading blank spaces and identifying each item submitted. Special care shall be exercised to ensure proper listing of the specification paragraph and/or sheet number of the contract drawings pertinent to the data submitted for each item.

### 3.5 SUBMITTAL PROCEDURE

Submittals shall be made as follows:

#### 3.5.1 Deviations

For submittals which include proposed deviations requested by the Contractor, the column "variation" of ENG Form 4025 shall be checked. The Contractor shall set forth in writing the reason for any deviations and annotate such deviations on the submittal. The Government reserves the right to rescind inadvertent approval of submittals containing unnoted deviations.



### 3.6 CONTROL OF SUBMITTALS

The Contractor shall carefully control its procurement operations to ensure that each individual submittal is made on or before the Contractor scheduled submittal date shown on the approved "Submittal Register."

### 3.7 GOVERNMENT APPROVED SUBMITTALS

Upon completion of review of submittals requiring Government approval, the submittals will be identified as having received approval by being so stamped and dated. The distribution of approved copies will be as specified in the Clause titled "SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION".

### 3.8 INFORMATION ONLY SUBMITTALS

Normally submittals for information only will not be returned. Approval of the Contracting Officer is not required on information only submittals.

### 3.9 RESERVATION OF RIGHTS

The Government reserves the right to require the Contractor to resubmit any item found not to comply with the contract. This does not relieve the Contractor from the obligation to furnish material conforming to the plans and specifications; will not prevent the Contracting Officer from requiring removal and replacement of nonconforming material incorporated in the work; and does not relieve the Contractor of the requirement to furnish samples for testing by the Government laboratory or for check testing by the Government in those instances where the technical specifications so prescribe.

## 3.10 STAMPS

Stamps, approximately 2 inches high by 3 inches wide, and similar to the following, shall be used by the Contractor on the submittal data to validate approval:

|   |
|---|
| CONTRACTOR  |
| (Firm Name)   |
| <br>  |
| _____ Approved  |
| <br>  |
| _____ Approved with corrections as noted on submittal data and/or attached sheets(s). |
| <br>  |
| SIGNATURE: _____  |
| TITLE: _____  |
| DATE: _____   |

## 3.11 ACCIDENT PREVENTION PLAN

The format of the Contractor's Accident Prevention Plan shall be in accordance with APPENDIX A, MINIMUM BASIC OUTLINE FOR ACCIDENT PREVENTION PLAN of the SAFETY AND HEALTH REQUIREMENTS MANUAL, EM 385 1-1, 3 Sept 1996.

A copy of NCE FORM 129 is included in SECTION 01999 for use in preparing activity hazard analysis documentation.

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## SECTION 01451

## CONTRACTOR QUALITY CONTROL

## PART 1 GENERAL

## 1.1 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

## SD-01 Preconstruction Submittals

## Quality Control Plan; G-AOF

At least ten (10) calendar days prior to commencing work submit a Quality Control Plan.

## Preparatory Inspection Checklist

Within 48 hours after any preparatory phase meeting submit the original preparatory inspection checklist.

## Initial Inspection Checklist

Within 48 hours after any preparatory phase meeting submit the original preparatory inspection checklist.

## Daily Inspection Reports

Within 24 hours following any previous calendar day submit the original daily inspection report.

## CQC System Manager; G-AOF

At least ten (10) calendar days prior to commencing work submit the qualification of the CQC manager.

## PART 2 PRODUCTS (NOT APPLICABLE)

## PART 3 EXECUTION

## 3.1 GENERAL

The Contractor is responsible for quality control and shall establish and maintain an effective quality control system in compliance with Clause titled "INSPECTION OF CONSTRUCTION." The quality control system shall consist of plans, procedures, and organization necessary to produce an end product which complies with the contract requirements. The system shall cover all construction operations, both on-site and off-site, and shall be keyed to the proposed construction sequence. The project superintendent will be held responsible for the quality of work on the job and is subject to removal by the Contracting Officer for non-compliance with quality

requirements specified in the contract. The project superintendent in this context shall mean the individual with the responsibility for the overall management of the project including quality and production.

### 3.2 QUALITY CONTROL PLAN

#### 3.2.1 General

The Contractor shall furnish for review by the Government, not later than 30 days after receipt of notice to proceed, the Contractor Quality Control (CQC) Plan proposed to implement the requirements of Clause titled "INSPECTION OF CONSTRUCTION." The plan shall identify personnel, procedures, control, instructions, records, and forms to be used. The Government will consider an interim plan for the first 30 days of operation. Construction will be permitted to begin only after acceptance of the CQC Plan or acceptance of an interim plan applicable to the particular feature of work to be started. Work outside of the features of work included in an accepted interim plan will not be permitted to begin until acceptance of a CQC Plan or another interim plan containing the additional features of work to be started.

#### 3.2.2 Content of the CQC Plan

The CQC plan shall include, as a minimum, the following to cover all construction operations, both on-site and off-site, including work by subcontractors, fabricators, suppliers, and purchasing agents:

- a. A description of the quality control organization, including a chart showing lines of authority and acknowledgment that the CQC staff shall implement the three phase control system for all aspects of the work specified. The staff shall include a CQC system manager who shall report to the project superintendent.
- b. The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a CQC function.
- c. A copy of the letter to the CQC System Manager signed by an authorized official of the firm which describes the responsibilities and delegates sufficient authorities to adequately perform the functions of the CQC System Manager, including authority to stop work which is not in compliance with the contract. The CQC System Manager shall issue letters of direction to all other various quality control representatives outlining duties, authorities and responsibilities. Copies of these letters shall also be furnished to the Government.
- d. Procedures for scheduling, reviewing, certifying, and managing submittals, including those of subcontractors, offsite fabricators suppliers, and purchasing agents. These procedures shall be in accordance with SECTION 01330, "SUBMITTAL PROCEDURES".
- e. Control, verification, and acceptance testing procedures for each specific test to include the test name, specification paragraph requiring test, feature of work to be tested, test frequency, and person responsible for each test. (Laboratory facilities will be approved by the Contracting Officer.)
- f. Procedures for tracking preparatory, initial, and follow-up control phases, including documentation.

- g. Procedures for tracking construction deficiencies from identification through acceptable corrective action. These procedures will establish verification that identified deficiencies have been corrected.
- h. Reporting procedures, including proposed reporting formats.
- i. A list of the definable features of work. A definable feature of work is a task which is separate and distinct from other tasks, has separate control requirements, and may be identified by different trades or disciplines, or it may be work by the same trade in a different environment. Although each section of the specifications may be generally considered as a definable feature of work, there are frequently more than one definable features under a particular section. This list shall be as agreed upon during the coordination meeting.

### 3.2.3 Acceptance of Plan

Acceptance of the Contractor's plan is required prior to the start of construction. Acceptance is conditional and will be predicated on satisfactory performance during the construction. The Government reserves the right to require the Contractor to make changes in its CQC plan and operations including removal of personnel, as necessary, to obtain the quality specified.

### 3.2.4 Notification of Changes

After acceptance of the CQC plan, the Contractor shall notify the Contracting Officer in writing of any proposed change. Proposed changes are subject to acceptance by the Contracting Officer.

## 3.3 COORDINATION MEETING

Immediately after adjournment of the required Preconstruction Conference, before start of construction, and prior to acceptance by the Government of the Quality Control Plan, the Contractor shall meet with the Contracting Officer or Authorized Representative and discuss the Contractor's quality control system. The CQC plan shall be submitted in draft form for a review a minimum of 3 working days prior to the Coordination Meeting. During the meeting, a mutual understanding of the system details shall be developed, including the forms for recording the CQC operations, control activities, administration of the system for both on-site and off-site work, and the interrelationship of the Contractor's Management and control with the Government's Quality Assurance. Minutes of the meeting will be prepared by the Government and are to be signed by both the Contractor and the Contracting Officer or the Contracting Officer's Representative. The minutes shall be separate from the Preconstruction Conference minutes and shall become a part of the contract file. There may be occasions when subsequent conferences will be called by either party to reconfirm mutual understandings and/or address deficiencies in the CQC system or procedures which may require corrective action by the Contractor.

### 3.3.1 Finalize CQC Plan

Immediately following the Preconstruction Conference, the Contractor shall finalize the CQC plan, taking into account comments made at the conference, and shall formally submit the CQC plan for acceptance. The Contractor shall allow up to 10 calendar days for review and acceptance of the

finalized submittal.

### 3.4 QUALITY CONTROL ORGANIZATION

#### 3.4.1 General

The requirements for the CQC organization are a CQC System Manager and sufficient number of additional qualified personnel to ensure contract compliance. The Contractor shall provide a CQC organization which shall be at the site at all times during progress of the work and with complete authority to take any action necessary to ensure compliance with the contract. All CQC staff members shall be subject to acceptance by the Contracting Officer.

#### 3.4.2 CQC System Manager

The Contractor shall identify as CQC System Manager an individual within the on site work organization who shall be responsible for overall management of CQC and have the authority to act in all CQC matters for the Contractor. This CQC System Manager shall be a construction person with a minimum of 3 years in related work. This CQC system manager shall be on site at all times during construction and shall be employed by the prime Contractor. The CQC System Manager shall be assigned as System Manager but may have duties as project superintendent in addition to quality control. An alternate for the CQC System Manager shall be identified in the plan to serve in the event of the System Manager's absence. The requirements for the alternate shall be the same as for the designated CQC System Manager.

#### 3.4.3 Additional Requirements

In addition to the above experience and education requirements the CQC System Manager shall have completed the course titled "Construction Quality Management For Contractors". This course is periodically offered at one or more of the Area Offices within the District.

#### 3.4.4 Organizational Changes

The Contractor shall maintain the CQC staff at full strength at all times that the work related to the applicable skill is ongoing. When it is necessary to make changes to the CQC staff, the Contractor shall revise the CQC Plan to reflect the changes and submit the changes to the Contracting Officer for acceptance.

### 3.5 SUBMITTALS

Submittals shall be as specified in SECTION 01330, titled "SUBMITTAL PROCEDURES". The CQC organization shall be responsible for certifying that all submittals are in compliance with the contract requirements.

### 3.6 CONTROL

Contractor Quality Control is the means by which the Contractor ensures that the construction, to include that of subcontractors, complies with the requirements of the contract. The controls shall be adequate to cover all construction operations and will be keyed to the proposed construction sequence. The controls shall include at least three phases of control to be conducted by the CQC system manager for all definable features of work, as follows:

### 3.6.1 Preparatory Phase

This phase shall be performed prior to beginning work on each definable feature of work, after all required plans/documents/materials are approved/accepted, and after copies are at the work site. This phase shall include:

- a. A review of each paragraph of applicable specifications.
- b. A review of the contract drawings.
- c. A check to assure that all materials and/or equipment have been tested, submitted, and approved.
- d. Review of provisions have been made to provide required control inspection and testing.
- e. Examination of the work area to assure that all required preliminary work has been completed and is in compliance with the contract.
- f. A physical examination of required materials, equipment, and sample work to assure that they are on hand, conform to approved shop drawings or submitted data, and are properly stored.
- g. A review of the appropriate activity hazard analysis to assure safety requirements are met.
- h. Discussion of procedures for controlling quality of the work including repetitive deficiencies. Document construction tolerances and workmanship standards for that feature of work.
- i. A check to ensure that the portion of the plan for the work to be performed has been accepted by the Contracting Officer.
- j. Discussion of the initial control phase.
- k. The Government shall be notified at least 24 hours in advance of beginning any of the required action of the preparatory control phase. This phase shall include a meeting conducted by the CQC system manager and attended by the superintendent, other CQC personnel (as applicable), and the foreman responsible for the definable feature. The results of the preparatory phase actions shall be documented by a completed Preparatory Inspection Checklist and by separate minutes prepared by the CQC system manager and attached to the daily QC report. The Contractor shall instruct applicable workers as to the acceptable level of workmanship required in order to meet contract specifications.

### 3.6.2 Initial Phase

This phase shall be accomplished at the beginning of a definable feature of work. The following shall be accomplished:

- a. A check of preliminary work to ensure that it is in compliance with contract requirements. Review minutes of the preparatory meeting.
- b. Verify adequacy of controls to ensure full contract compliance. Verify required control inspection and testing.



c. Establish level of workmanship and verify that it meets minimum acceptable workmanship standards. Compare with required sample panels as appropriate.

d. Resolve all differences.

e. Check safety to include compliance with and upgrading of the safety plan and activity hazard analysis. Review the activity analysis with each worker.

f. The Government shall be notified at least 24 hours in advance of beginning the initial phase. A completed initial inspection checklist of this phase shall be prepared by the CQC system manager and attached to the daily QC report. Exact location of initial phase shall be indicated for future reference and comparison with follow-up phases.

g. The initial phase should be repeated for each new crew to work on-site, or any time acceptable specified quality standards are not being met.

### 3.6.3 Follow-up Phase

Daily checks shall be performed to assure continuing compliance with contract requirements until completion of the particular feature of work. The checks shall be made a matter of record in the CQC documentation. Final follow-up checks shall be conducted and all deficiencies corrected prior to the start of additional features of work which may be affected by the deficient work. The Contractor shall not build upon nor conceal non-conforming work.

### 3.6.4 Implementation of Government Resident Management System (RMS)

The Contractor shall utilize the Government-furnished CQC Management Report. (Copy enclosed in SECTION 01999). Other Contractor desired reporting forms may be used in addition to this form. The Contractor shall use a government-furnished RMS CQC computer module for managing the quality control for this project. On the Government-furnished Input Forms in SECTION 01999 for use with the RMS, the Contractor shall provide the following information:

(1) Prime Contractor staffing

(2) letter codes which the Contractor wishes to use in addition to those supplied with the program libraries. A list of current existing codes is provided in SECTION 01999.

(3) subcontractor information showing trade, name, address, and insurance expiration dates

(4) Definable features of work from a Government provided dictionary (may be expanded by the Contractor, as approved).

(5) Pay activity and activity information, including minimum and maximum durations for each activity on a separate listing. The sum of all activity values shall equal the contract amount and, all Bid Items and Additives shall be separately identified, in accordance with the BIDDING SCHEDULE. Bid Items may include multiple activities, but activities may only be assigned to one such Bid Item. All of the data listed in this Subpart 6 shall be

provided and the RMS CQC module shall be completed to the satisfaction of the Contracting Officer prior to any contract payments (except payments for bonds, insurance and/or mobilization as approved by the Contracting Officer) and shall be updated as required.

(6) Required Quality Control tests (as applicable) tied to individual activities. The QC Reports/QC Requirements function of the RMS QC Module will be used to meet the requirements for tracking of verification and acceptance testing specified in the paragraph titled "Content of the CQC Plan".

(7) Submittal information relating to specification section, bid item number, description, activity number, review period and expected procurement period

(8) User schooling information (as applicable).

The above items shall be incorporated into the required submittal for the Contractor's Quality Control Plan required in the paragraph titled "QUALITY CONTROL PLAN" of this Section.

a. During the course of the contract, the Contractor will receive various Quality Assurance comments from the Government that will reflect corrections needed to Contractor activities or reflect outstanding or future items needing the attention of the Contractor. The Contractor shall acknowledge receipt of these comments by specific number reference on its Daily CQC Report, and will also reflect on his Daily CQC Report when these items are specifically completed or corrected to permit Government verification. The contractor will use the QC COMMENTS function of the RMS QC Module to meet the requirements for tracking construction deficiencies as specified in paragraph titled, "Content of the CQC Plan".

b. The Contractor's schedule system shall include, as specified and separate activities, all Preparatory Phase Meetings (inspections); all O&M Manuals (as applicable) and all Test Plans of Electrical and Mechanical Equipment or Systems that require validation testing or instructions to Contracting Officer Representatives (as applicable).

### 3.6.5 Additional Preparatory and Initial Phases

Additional preparatory and initial phases may be conducted on the same definable features of work as determined by the Government if the quality of on-going work is unacceptable; or if there are changes in the applicable QC staff or in the on-site production supervision or work crew; or if work on a definable feature is resumed after a substantial period of inactivity, or if other problems develop.

## 3.7 COMPLETION INSPECTION

### 3.7.1 Punch-Out Inspection

At the completion of all work the CQC system manager shall conduct an inspection of the work and develop a "punch list" of items which do not conform to the approved plans and specifications. Such a list of deficiencies shall be included in the CQC documentation, as required by paragraph "DOCUMENTATION" below, and shall include the estimated date by which the deficiencies will be corrected. The CQC system manager or staff

shall make a second inspection to ascertain that all deficiencies have been corrected. Once this is accomplished, the Contractor shall notify the Government that the facility is ready for the Government Pre-Final Inspection.

### 3.7.2 Pre-Final Inspection

The Government will perform this inspection to verify that the facility is complete and ready to be occupied. A Government Pre-Final Punch List may be developed as a result of this inspection. The Contractor's CQC System Manager shall ensure that all items on this list have been corrected before notifying the Government so that a Final inspection with the customer can be scheduled. Any items noted on the Pre-Final inspection shall be corrected in a timely manner. These inspections and any deficiency corrections required by this paragraph shall be accomplished within the time slated for completion of the entire work or any particular increment thereof if the project is divided into increments by separate completion dates.

### 3.7.3 Final Acceptance Inspection

The Contractor's Quality Control Inspection personnel, plus the superintendent or other primary management person, and the Contracting Officer's Representative shall be in attendance at this inspection. Additional Government personnel including, but not limited to, those from Base/Post Civil Facility Engineer user groups, and major commands may also be in attendance. The final acceptance inspection will be formally scheduled by the Contracting Officer based upon results of the Pre-Final inspection. Notice shall be given to the Contracting Officer at least 14 days prior to the final acceptance inspection and shall include the Contractor's assurance that all specific items previously identified to the Contractor as being unacceptable, along with all remaining work performed under the contract, will be complete and acceptable by the date scheduled for the final acceptance inspection. Failure of the Contractor to have all contract work acceptable complete for this inspection will be cause for the Contracting Officer to bill the Contractor for the Government's additional inspection cost in accordance with the contract clause titled "Inspection of Construction".

## 3.8 DOCUMENTATION

The Contractor shall maintain Daily Inspection Reports of quality control operations, activities, and tests performed, including the work of subcontractors. These records shall be on an acceptable form and shall include factual evidence that required quality control activities and/or tests have been performed, including but not limited to the following:

- a. Contractor/subcontractor and their area of responsibility.
- b. Operating plant/equipment with hours worked, idle, or down for repair.
- c. Work performed today, giving location, description, and by whom. For dredging projects, the report shall always include the character and types of materials removed. Whenever there is a significant change in the materials, the location of such change shall be included in the reports.
- d. Control activities performed with results and references to

specifications/plan requirements. The control phase should be identified (Preparatory, Initial, Follow-up). List deficiencies noted along with corrective action.

e. Quantity of materials received at the site, with statement as to acceptability, storage, and reference to specifications/drawings requirements.

f. Identify submittals reviewed, with contract reference, by whom, and action taken.

g. Off-site surveillance activities, including actions taken.

h. Job safety evaluations stating what was checked, results, and instructions or corrective actions.

i. List instructions given/received and conflicts in plans and/or specifications.

j. Contractor's verification statement.

These records shall indicate a description of trades working on the project; the number of personnel working; weather conditions encountered; and any delays encountered. These records shall cover both conforming and deficient features and shall include a statement that the workmanship complies with the contract. The original and one copy of these records in report form shall be furnished to the Government daily within 24 hours after the date(s) covered by the report, except that reports need not be submitted for days on which no work is performed. All calendar days shall be accounted for throughout the life of the contract. The first report following a period of no work shall be for that day and all the no-work days since the last reported work day. Reports shall be sequentially numbered for this project, signed and dated by the CQC system manager. The report from the CQC system manager shall include copies of reports prepared by all subordinate quality control personnel.

### 3.9 SAMPLE FORMS

Sample forms for the CQC Management Report, Preparatory Inspection Checklist, Initial Inspection Checklist, and other required reports and plans are enclosed in SECTION 01999. The Contractor shall tailor the checklists to include all reporting and quality control requirements specific to this project.

### 3.10 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer will notify the Contractor of any detected noncompliance with the foregoing requirements. The Contractor shall, after receipt of such notice, immediately take corrective action. Such notice, when delivered to the Contractor at the site of the work, shall be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor or subcontractor.

-- End of Section --



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SECTION 01580

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## SECTION 01580

## CONSTRUCTION PROJECTS AND SAFETY PERFORMANCE SIGNS

## PART 1 GENERAL

## 1.1 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Sign Layouts; G-AOF.

Submit the proposed layouts before applying lettering.

## 1.2 QUALITY CONTROL

The Contractor shall establish and maintain a quality control system for all operations performed under this Section to assure compliance with contract requirements and maintain records of its quality control for all operations performed, including, but not limited to the following:

- a. Quality - materials and workmanship.
- b. Overall appearance of signs and site.
- c. Observance of safety regulations.

## PART 2 PRODUCTS

## 2.1 SIGN CONSTRUCTION

The materials to be used and the manner in which they are to be assembled and installed are shown on the sketches enclosed in SECTION 01999.

## 2.1.1 Government-Furnished Materials

The Government will furnish and deliver to the Contractor at the project site one (1) Construction Project sign panel, four (4) feet by six (6) feet by 3/4 inch thick and one (1) Safety Performance sign panel, four (4) feet by four (4) feet by 3/4 inch thick. Each sign panel will have affixed graphics and be lettered except for the project title and the name of the Contractor. Each sign panel will embody six (6) 1/4 inch diameter T-nuts appropriately placed. The Government will retain possession of the removable numbers for the Safety Performance sign and affix them at the appropriate times.

## 2.1.2 Contractor-Furnished Materials

All materials necessary for construction of the signs as described on the sketches except those furnished by the Government, shall be furnished by

the Contractor. All wood members shall be of well seasoned, kiln dried, clear redwood, bald cypress, red cedar, Douglas fir, spruce, tulip poplar or white pine. The lumber materials shall be free of splits, wane and loose knots or pitch pockets. Wood materials for posts, braces and stakes shall be preservative treated. All members of the sign shall be fastened with screws or bolts of type, size, number and spacing to provide rigid construction and a neat appearance. The Contractor shall furnish twelve (12) each 1/4 inch diameter by four (4) inches long Allen head bolts, threaded to match the T-nuts.

#### 2.1.2.1 Sign Lettering

In the location provided on each sign panel, the Contractor shall apply the applicable project title, Contractor name [and architect/engineer name]. Specific information for sign layouts will be provided by the Contracting Officer's Representative (COR) at the conference specified hereinbefore in clause titled "PRE-CONSTRUCTION CONFERENCE." Lettering shall be black. The materials used for lettering shall be of a type which will adhere to the high density overlay plywood panels under all weather conditions and shall be applied in accordance with the lettering manufacturer's recommendations. Letter size, typeface and maximum line lengths are as follows:

|                              | <u>Construction<br/>Project Sign</u> | <u>Safety<br/>Performance Sign</u> |
|------------------------------|--------------------------------------|------------------------------------|
| Project Title                |                                      |                                    |
| Typeface                     | Helvetica Bold                       | Helvetica Regular                  |
| Letter size (inches)         | 3                                    | 1.5                                |
| Maximum line length (inches) | 42                                   | 42                                 |
| Contractor's Name            |                                      |                                    |
| Typeface                     | Helvetica Regular                    | Helvetica Regular                  |
| Letter size (inches)         | 1.25                                 | 1.5                                |
| Maximum line length (inches) | 21                                   | 42                                 |
| Architect/Engineer's Name    |                                      |                                    |
| Typeface                     | Helvetica Regular                    |                                    |
| Letter size (inches)         | 1.25                                 | None                               |
| Maximum line length (inches) | 21                                   |                                    |

### PART 3 EXECUTION

#### 3.1 INSTALLATION

The Contractor shall affix the panels to the posts with the Allen head bolts prior to erection of the signs, including drilling counter-sunk 1/4 inch diameter holes in the posts to match the T-nut locations. The Contractor shall take all precautions necessary to protect the faces of the signs from damage during assembly and construction. The signs shall be installed upon commencement of the work under this contract. The location in which each sign is to be installed shall be as directed by the Contracting Officer. The site on which the signs are to be installed shall be cleared and leveled to facilitate the installation of, and provide easy visual contact with, the signs. Installation and positioning of the posts, braces and stakes shall be as indicated on the referenced sketches. Excavation and backfilling of the holes for posts and installation of the posts, braces and stakes shall be such that signs are installed plumb and



level.

### 3.2 MAINTENANCE

The Contractor shall maintain the signs in good condition and the sign site in a neat condition throughout the construction period.

### 3.3 REMOVAL

Upon completion of all contract work, the signs shall be removed by the Contractor and turned over to the Contracting Officer's Representative at the site.

-- End of Section --

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SECTION 01999

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PART 2     PRODUCTS   (NOT APPLICABLE)

PART 3     EXECUTION   (NOT APPLICABLE)

-- End of Section Table of Contents --

## SECTION 01999

## LISTING OF ENCLOSED DOCUMENTS, EXHIBITS AND OTHER ATTACHEMENT

## PART 1 GENERAL

## 1.1 ENCLOSURES

This Section contains documents referenced in other Sections of the specifications. They are consolidated in this Section for the convenience of the Contractor and the Government. The Contractor may reproduce the enclosed forms for its use or obtain a supply of the forms from the Contracting Officer.

**TITLE**

CONSTRUCTION QUALITY MANAGEMENT REPORT - NCE FORM 63,  
6 MAY 77. (2 Sides)

PREPARATORY INSPECTION CHECKLIST (3 SIDES)

INITIAL INSPECTION CHECKLIST (2 SIDES)

ACCIDENT PREVENTION PROGRAM ACTIVITY HAZARD ANALYSIS-  
NCE FORM 129, 6 JUNE 1986.

RESIDENT MANAGEMENT SYSTEM FORMS (SAMPLES)

A. CURRENT ACTIVITY SUMMARY (SMPL)

B. INITIAL INSPECTION WORKSHEET

C. PREPARATORY INSPECTION WORKSHEET

D. CONTRACTOR QUALITY CONTROL REPORT (QCR)

E. TRANSMITTAL SHEET (4025-R)

SUBMITTAL REGISTER - ENG FORM 4288, MAY 91

TRANSMITTAL OF SHOP DRAWINGS, EQUIPMENT DATA,  
MATERIAL SAMPLES, OR MANUFACTURER'S CERTIFICATIONS  
OF COMPLIANCE ENG FORM 4025, MAY 91 (2 SIDES)

CONSTRUCTION PROJECT AND SAFETY PERFORMANCE SIGNS

GENERAL DECISION NO. IL030018

## PART 2 PRODUCTS (NOT APPLICABLE)

## PART 3 EXECUTION (NOT APPLICABLE)

-- End of Section --

CONSTRUCTION QUALITY CONTROL MANAGEMENT

DATE \_\_\_\_\_ REPORT \_\_\_\_\_  
CONTRACTOR \_\_\_\_\_ CONTRACT NO. \_\_\_\_\_  
PROJECT NAME \_\_\_\_\_ LOCATION \_\_\_\_\_  
WEATHER TYPE \_\_\_\_\_ TEMP. MAX \_\_\_\_\_ MIN \_\_\_\_\_ RAINFALL \_\_\_\_\_ GAGE READING \_\_\_\_\_  
EMPLOYEES: SUPV. \_\_\_\_\_ SKILLED \_\_\_\_\_ LABORERS \_\_\_\_\_ LENGTH OF SHIFT \_\_\_\_\_ HR \_\_\_\_\_

WORK RESPONSIBILITY: NAME (PRIME OR SUBCONTRACTOR) AND AREA OF RESPONSIBILITY .

A. \_\_\_\_\_  
B. \_\_\_\_\_  
C. \_\_\_\_\_  
D. \_\_\_\_\_  
E. \_\_\_\_\_

WORK PERFORMED TODAY: (LOCATION, DESCRIPTION, QUANTITY AND RESPONSIBILITY BY LETTER REFERENCE  
( Relate to Items on the Progress Chart or CPM)

INSPECTION: (DESCRIPTION OF INSPECTION AND LOCATION. INCLUDE OFF-SITE, MATERIALS AND EQUIPMENT INSPECTION.)

A. PREPARATORY PHASE:

B. INITIAL PHASE:

C. CONTINUOUS PHASE:

RESULTS OF INSPECTION: (INCLUDE FINDINGS, DEFICIENCIES OBSERVED & CORRECTIVE ACTION)

RESULTS OF SURVEILLANCE CONTINUED:

---

TEST PERFORMED: TYPE, LOCATION, RESULTS INCLUDING FAILURES & REMEDIAL ACTION,  
(ATTACH COPY OF TEST REPORT OR NOTATION WHEN IT WILL BE FURNISHED.)

---

WORK ITEMS BEHIND SCHEDULE: REASON, EFFECT ON PROGRESS SCHEDULE AND ACTION TAKEN.

---

JOB SAFETY: (REPORT CONDITIONS, DEFICIENCIES, CORRECTIVE ACTION & RESULTS.)

---

REMARKS: LIST ATTACHMENT AND OTHER MANAGEMENT ACTIONS TAKEN TO ASSURE QUALITY  
CONSTRUCTION

IF INSPECTION & RESULTS ARE NOT LISTED THEN IT IS ASSUMED THAT QUALITY CONTROL IS NOT BEING  
IMPLEMENTED.  
THE ABOVE REPORT IS COMPLETE AND CORRECT AND ALL MATERIALS & SUPPLIES INCORPORATED IN THE  
WORK ARE IN COMPLIANCE WITH THE TERMS OF THE CONTRACT EXCEPT AS NOTED:

---

CONTRACTOR'S APPROVED REPRESENTATIVE SIGNATURE

ACCIDENT PREVENTION PROGRAM  
ACTIVITY HAZARD ANALYSIS

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|                 |             |                         |
|-----------------|-------------|-------------------------|
| 1. Contract No. | 2. Project  | 3. Facility             |
| 4. Date         | 5. Location | 6. Estimated Start Date |

| 7. Item | 8. Phase of Work | 9. Safety Hazard | 10. Precautionary Action Taken |
|---------|------------------|------------------|--------------------------------|
|         |                  |                  |                                |

|                                   |
|-----------------------------------|
| 11. Contractor (Signature & Date) |
|-----------------------------------|

|   |  |
|---|--|
| 12. Report discussed with contractor/ superintendent on | 13. Contracting Officer (Signature & Date) |
|---|--|

# SUBMITTAL REGISTER

CONTRACT NO.

| TITLE AND LOCATION<br>FOX RIVER UPPER APPLETON RIGHT ABUTMENT REPAIR |                   |              |                                  |           |                                | CONTRACTOR                    |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|--|-------------------|--------------|----------------------------------|-----------|--------------------------------|-------------------------------|--------------------------|--------------------------|----------------------|----------------------|------------------------------|---------------------------|----------------------------------|----------------------------------|----------------|--|---------|
| ACTIVITY<br>NO   | TRANSMITTAL<br>NO | SPEC<br>SECT | DESCRIPTION<br>ITEM SUBMITTED    | PARAGRAPH | GOVT<br>CLASSIFICATION<br>REVW | CONTRACTOR:<br>SCHEDULE DATES |                          |                          | CONTRACTOR<br>ACTION |                      | DATE FWD<br>TO APPR<br>AUTH/ | APPROVING AUTHORITY       |                                  |                                  |                | MAILED<br>TO<br>CONTR/<br>DATE RCD<br>FRM APPR<br>AUTH | REMARKS |
|  |                   |              |                                  |           |                                | SUBMIT                        | APPROVAL<br>NEEDED<br>BY | MATERIAL<br>NEEDED<br>BY | ACTION<br>CODE       | DATE<br>OF<br>ACTION |                              | DATE RCD<br>FROM<br>CONTR | DATE FWD<br>TO OTHER<br>REVIEWER | DATE RCD<br>FROM OTH<br>REVIEWER | ACTION<br>CODE | DATE<br>OF<br>ACTION                                   |         |
| (a)  | (b)               | (c)          | (d)                              | (e)       | (f)                            | (g)                           | (h)                      | (i)                      | (j)                  | (k)                  | (l)                          | (m)                       | (n)                              | (o)                              | (p)            | (q)  | (r)     |
|  |                   | 01100        | SD-01 Preconstruction Submittals |           |                                |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   |              | Accident Prevention Plan         | 1.6.1     |                                |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   |              | Payrolls and Basic Records       | 1.6.2     |                                |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   |              | Progress Chart                   | 1.6.3     | G AOF                          |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   |              | Non-listed, Non-Commercially     | 2.1.1     | G ECD                          |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   |              | Active Stone or Material Source  |           |                                |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   |              | Utility Locating Plan            | 1.4.3     | G AOF                          |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   |              | Utility Location Findings        | 1.4.3     | G AOF                          |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   |              | Survey Note Format               | 1.4.7.2   | G AOF                          |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   |              | SD-07 Certificates               |           |                                |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   |              | As-Built Technician's            | 2.2       |                                |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   |              | Qualifications                   |           |                                |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   |              | As-built Drawings                | 2.2       | G AOF                          |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   |              | Survey Information               | 1.4.7.2   |                                |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   | 01101        | SD-01 Preconstruction Submittals |           |                                |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   |              | Additional Property Agreements   | 1.2.2     | G RED                          |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   | 01130        | SD-01 Preconstruction Submittals |           |                                |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   |              | Environmental Protection Plan    | 1.5       | G AOF                          |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   | 01451        | SD-01 Preconstruction Submittals |           |                                |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   |              | Quality Control Plan             | 3.2       | G AOF                          |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   |              | Preparatory Inspection Checklist | 3.6.1     |                                |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   |              | Initial Inspection Checklist     | 3.6.2     |                                |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   |              | Daily Inspection Reports         | 3.8       |                                |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   |              | CQC System Manager               | 3.4.2     | G AOF                          |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   |              | CQC System Manager               | 3.4.2     | G AOF                          |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   | 01580        | SD-02 Shop Drawings              |           |                                |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |

# SUBMITTAL REGISTER

CONTRACT NO.

| TITLE AND LOCATION<br>FOX RIVER UPPER APPLETON RIGHT ABUTMENT REPAIR |                   |              |                                  |           |                                | CONTRACTOR                    |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|--|-------------------|--------------|----------------------------------|-----------|--------------------------------|-------------------------------|--------------------------|--------------------------|----------------------|----------------------|------------------------------|---------------------------|----------------------------------|----------------------------------|----------------|--|---------|
| ACTIVITY<br>NO   | TRANSMITTAL<br>NO | SPEC<br>SECT | DESCRIPTION<br>ITEM SUBMITTED    | PARAGRAPH | GOVT<br>CLASSIFICATION<br>REVW | CONTRACTOR:<br>SCHEDULE DATES |                          |                          | CONTRACTOR<br>ACTION |                      | DATE FWD<br>TO APPR<br>AUTH/ | APPROVING AUTHORITY       |                                  |                                  |                | MAILED<br>TO<br>CONTR/<br>DATE RCD<br>FRM APPR<br>AUTH | REMARKS |
|  |                   |              |                                  |           |                                | SUBMIT                        | APPROVAL<br>NEEDED<br>BY | MATERIAL<br>NEEDED<br>BY | ACTION<br>CODE       | DATE<br>OF<br>ACTION |                              | DATE RCD<br>FROM<br>CONTR | DATE FWD<br>TO OTHER<br>REVIEWER | DATE RCD<br>FROM OTH<br>REVIEWER | ACTION<br>CODE | DATE<br>OF<br>ACTION                                   |         |
| (a)  | (b)               | (c)          | (d)                              | (e)       | (f)                            | (g)                           | (h)                      | (i)                      | (j)                  | (k)                  | (l)                          | (m)                       | (n)                              | (o)                              | (p)            | (q)  | (r)     |
|  |                   | 01580        | Sign Layouts                     | 2.1.2.1   | G AOF                          |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   | 02139        | SD-01 Preconstruction Submittals |           |                                |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   |              | Construction Equipment           | 3.1       |                                |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   |              | FIO                              |           |                                |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   |              | Work Plan                        | 3.1       | G AOF                          |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   | 03200A       | SD-02 Shop Drawings              |           |                                |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   |              | Reinforcement                    |           | G AOF                          |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   |              | SD-03 Product Data               |           |                                |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   |              | Welding                          | 1.3       |                                |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   |              | SD-07 Certificates               |           |                                |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   |              | Reinforcing Steel                |           | G AOF                          |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   | 03230        | SD-02 Shop Drawings              |           |                                |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   |              | Installation Drawings            | 3.1.2     | G AOF                          |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   |              | SD-03 Product Data               |           |                                |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   |              | Stressing Method and Equipment   | 3.1.1     | G AOF                          |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   |              | Materials Disposition Records    | 3.3       |                                |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   |              | Stressing Operations Records     |           |                                |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   |              | SD-06 Test Reports               |           |                                |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   |              | Stressing Bars and Accessories   | 2.1       | G AOF                          |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   |              | SD-07 Certificates               |           |                                |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   |              | Certification of Stressing       | 1.3       | G AOF                          |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   |              | Technicians                      |           |                                |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   | 03307A       | SD-03 Product Data               |           |                                |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   |              | Air-Entraining Admixture         | 2.1.3.1   | G AOF                          |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   |              | Curing Materials                 |           | G AOF                          |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |
|  |                   |              | Reinforcing Steel                |           | G AOF                          |                               |                          |                          |                      |                      |                              |                           |                                  |                                  |                |  |         |



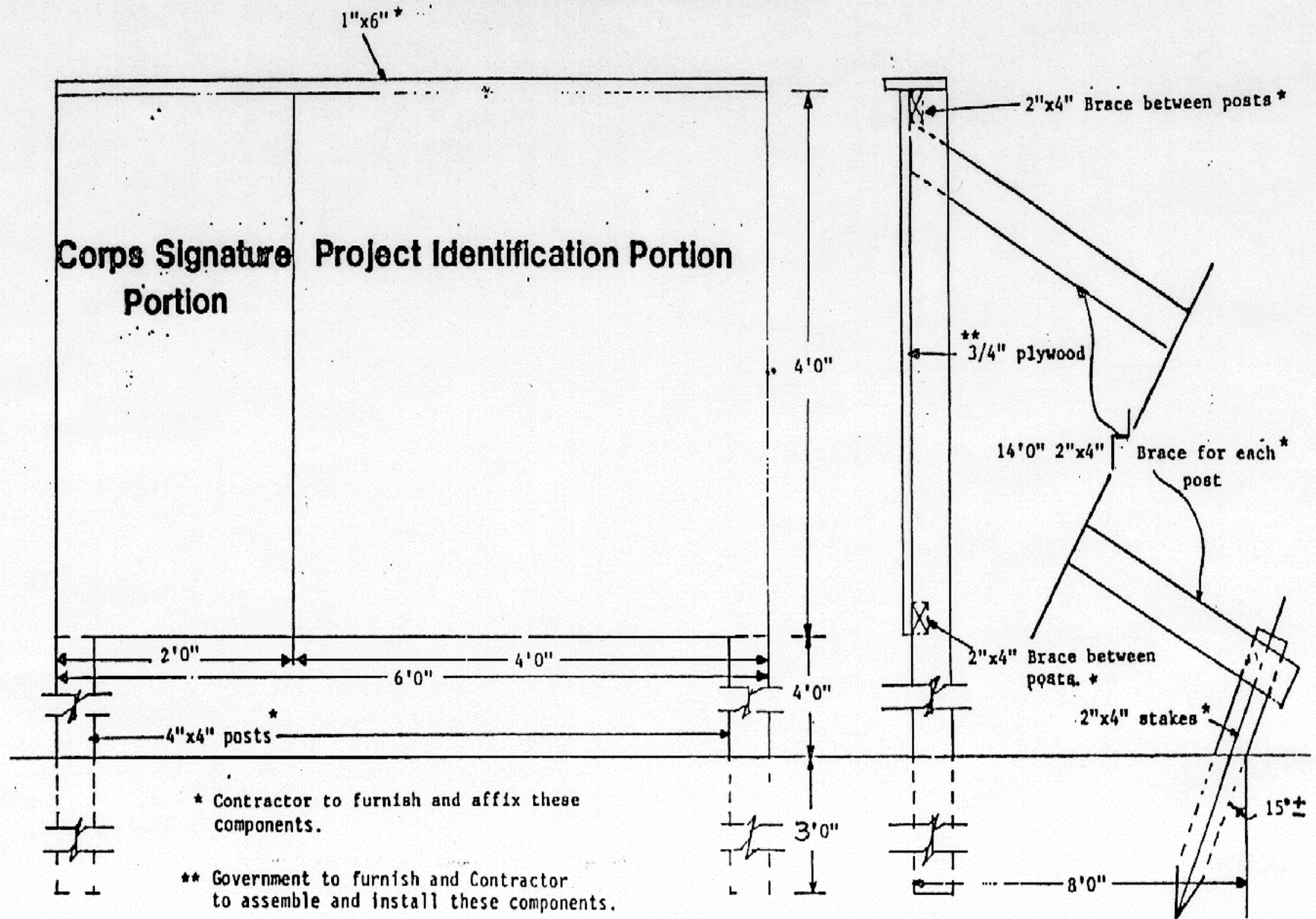
# SUBMITTAL REGISTER

CONTRACT NO.

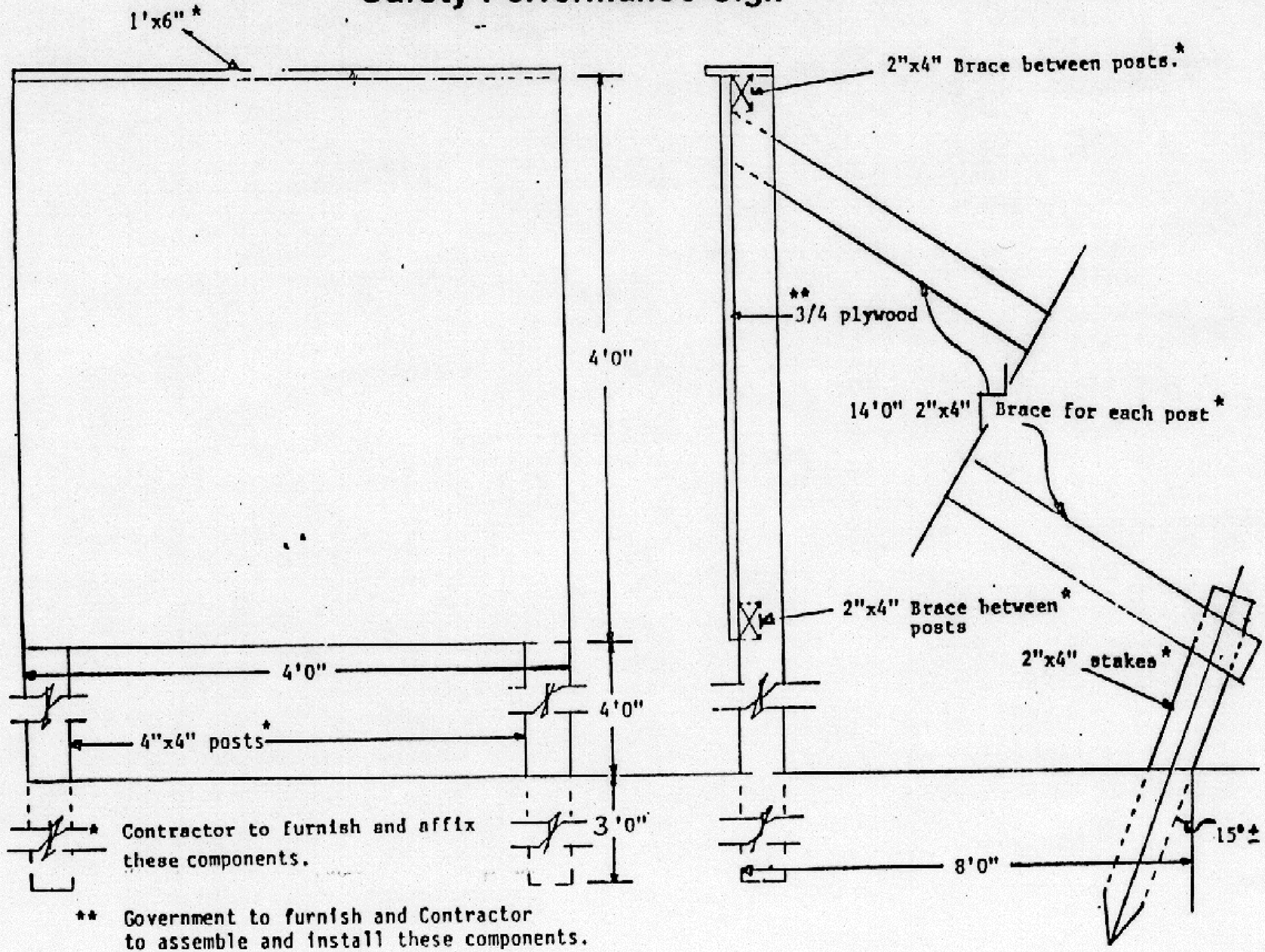
| TITLE AND LOCATION<br>FOX RIVER UPPER APPLETON RIGHT ABUTMENT REPAIR |                   |              |   |           |  | CONTRACTOR                    |                          |                          |                      |                      |     |   |                                  |                                  |  |  |         |
|--|-------------------|--------------|---|-----------|--|-------------------------------|--------------------------|--------------------------|----------------------|----------------------|-----|---|----------------------------------|----------------------------------|--|--|---------|
| ACTIVITY<br>NO   | TRANSMITTAL<br>NO | SPEC<br>SECT | DESCRIPTION<br>ITEM SUBMITTED                   | PARAGRAPH | GOVT<br>CLASS<br>SIFIC<br>ATION<br>REV<br>WR | CONTRACTOR:<br>SCHEDULE DATES |                          |                          | CONTRACTOR<br>ACTION |                      |     | APPROVING AUTHORITY                                       |                                  |                                  |  | MAILED<br>TO<br>CONTR/<br>DATE RCD<br>FRM APPR<br>AUTH | REMARKS |
|  |                   |              |   |           |  | SUBMIT                        | APPROVAL<br>NEEDED<br>BY | MATERIAL<br>NEEDED<br>BY | ACTION<br>CODE       | DATE<br>OF<br>ACTION |     | DATE FWD<br>TO APPR<br>AUTH/<br>DATE RCD<br>FROM<br>CONTR | DATE FWD<br>TO OTHER<br>REVIEWER | DATE RCD<br>FROM OTH<br>REVIEWER | ACTION<br>CODE<br>DATE<br>OF<br>ACTION |  |         |
| (a)  | (b)               | (c)          | (d)   | (e)       | (f)  | (g)                           | (h)                      | (i)                      | (j)                  | (k)                  | (l) | (m)   | (n)                              | (o)                              | (p)                                    | (q)  | (r)     |
|  |                   | 03307A       | Expansion Joint Filler Strips,<br>Premolded     |           | G AOF  |                               |                          |                          |                      |                      |     |   |                                  |                                  |  |  |         |
|  |                   |              | Joint Sealants - Field Molded<br>Sealants       |           | G AOF  |                               |                          |                          |                      |                      |     |   |                                  |                                  |  |  |         |
|  |                   |              | Batching and Mixing Equipment                   | 3.1.4.3   | G AOF  |                               |                          |                          |                      |                      |     |   |                                  |                                  |  |  |         |
|  |                   |              | Conveying and Placing Concrete<br>Formwork      | 3.2       | G AOF  |                               |                          |                          |                      |                      |     |   |                                  |                                  |  |  |         |
|  |                   |              | SD-06 Test Reports                              |           | G AOF  |                               |                          |                          |                      |                      |     |   |                                  |                                  |  |  |         |
|  |                   |              | Aggregates                                      | 2.1.2     | G AOF  |                               |                          |                          |                      |                      |     |   |                                  |                                  |  |  |         |
|  |                   |              | Concrete Mixture Proportions                    | 1.3.3     | G AOF  |                               |                          |                          |                      |                      |     |   |                                  |                                  |  |  |         |
|  |                   |              | SD-07 Certificates                              |           |  |                               |                          |                          |                      |                      |     |   |                                  |                                  |  |  |         |
|  |                   |              | Cementitious Materials                          | 2.1.1     | G AOF  |                               |                          |                          |                      |                      |     |   |                                  |                                  |  |  |         |
|  |                   |              | Aggregates                                      | 2.1.2     | G AOF  |                               |                          |                          |                      |                      |     |   |                                  |                                  |  |  |         |
|  |                   | 03308        | SD-08 Manufacturer's Instructions               |           |  |                               |                          |                          |                      |                      |     |   |                                  |                                  |  |  |         |
|  |                   |              | Proportions of Mixture                          | 1.6       | G AOF  |                               |                          |                          |                      |                      |     |   |                                  |                                  |  |  |         |
|  |                   |              | Qualifications                                  | 1.4       |  |                               |                          |                          |                      |                      |     |   |                                  |                                  |  |  |         |
|  |                   |              | SD-09 Manufacturer's Field<br>Reports           |           |  |                               |                          |                          |                      |                      |     |   |                                  |                                  |  |  |         |
|  |                   |              | Sampling and Laboratory Testing<br>of Materials | 1.5       | G AOF  |                               |                          |                          |                      |                      |     |   |                                  |                                  |  |  |         |
|  |                   |              | Report  | 1.7.2     | G AOF  |                               |                          |                          |                      |                      |     |   |                                  |                                  |  |  |         |
|  |                   |              | Disposal of Excess or Waste<br>Grout            | 1.7.7     | G AOF  |                               |                          |                          |                      |                      |     |   |                                  |                                  |  |  |         |
|  |                   |              | Plan of Operation                               | 3.7.2     | G AOF  |                               |                          |                          |                      |                      |     |   |                                  |                                  |  |  |         |
|  |                   |              | Materials                                       | 2.1       | G AOF  |                               |                          |                          |                      |                      |     |   |                                  |                                  |  |  |         |
|  |                   |              | Records   | 3.7.1     |  |                               |                          |                          |                      |                      |     |   |                                  |                                  |  |  |         |

[illegible]

# Construction Project Sign



## Safety Performance Sign





US Army Corps  
of Engineers

## Current Activity Summary

08 Jul 2002

Project Name: Repair of North & South Piers, Baloney Harbor, MI  
Contract Number: DACW35-02-C-####

Location Name

| Activity Number    | Activity Description                               | QUANTITY      | UNIT PRICE                 | AMOUNT                |
|--------------------|--|---------------|----------------------------|-----------------------|
| <b>CLIN 0001</b>   | <b>North and South Pier Repairs</b>                | <b>1</b>      | <b>\$3,437,787.18 / LS</b> | <b>\$3,437,787.18</b> |
| 1001               | Bonds  |               |                            | \$49,136.00           |
| 1002A              | Prepare & Mobilize Equipment                       |               |                            | \$94,864.00           |
| 1002B              | Prepare Site                                       |               |                            | \$72,500.00           |
| 1002C              | Office Trailers & Utilities                        |               |                            | \$22,500.00           |
| 1003A              | Demobilize Equipment                               |               |                            | \$5,000.00            |
| 1003B              | Site Restoration                                   |               |                            | \$2,500.00            |
| 1003C              | As-Built Drawings                                  |               |                            | \$2,500.00            |
| 1004A              | Furnish SSP  |               |                            | \$750,000.00          |
| 1004B              | Furnish Special Piles                              |               |                            | \$50,000.00           |
| 1004C              | Furnish SSP Pile Shoes                             |               |                            | \$30,000.00           |
| 1004D              | Fabricate Template                                 |               |                            | \$6,000.00            |
| 1004E              | Excavate Driving Line                              |               |                            | \$100,000.00          |
| 1004F              | Set & Drive SSP                                    |               |                            | \$500,000.00          |
| 1004G              | Backfill Driving Line                              |               |                            | \$50,000.00           |
| 1004I              | South Driving Line Obstruction Removal             |               |                            | \$117,787.18          |
| 1005A              | Furnish Misc. Steel                                |               |                            | \$193,000.00          |
| 1005B              | Furnish Tie-Rods                                   |               |                            | \$20,000.00           |
| 1005C              | Furnish Plate Washers                              |               |                            | \$15,000.00           |
| 1005D              | Furnish Fastners                                   |               |                            | \$12,000.00           |
| 1005E              | Place Misc. Steel                                  |               |                            | \$280,000.00          |
| 1006A              | Demo Concrete & Remove (Rubblemound)               |               |                            | \$100,000.00          |
| 1006B              | Excavate Existing Crib (Rubblemound Area)          |               |                            | \$185,000.00          |
| 1006C              | Disposal of Demo Materials (Rubblemound Area)      |               |                            | \$25,000.00           |
| 1007A              | Furnish H-Pile Materials                           |               |                            | \$22,800.00           |
| 1007B              | Install H-Piles                                    |               |                            | \$27,200.00           |
| 1008A              | Furnish Rebar                                      |               |                            | \$135,000.00          |
| 1008B              | Place Concrete (2000 CY @ \$250.00/CY)             |               |                            | \$500,000.00          |
| 1009A              | Furnish Handrails                                  |               |                            | \$60,000.00           |
| 1009B              | Place Handrails                                    |               |                            | \$7,000.00            |
| 1009C              | Paint Handrails                                    |               |                            | \$3,000.00            |
|                    |  |               |                            | <b>\$3,437,787.18</b> |
| <b>CLIN 0002</b>   | <b>Fill Stone:</b>                                 | <b>0</b>      | <b>\$0.00 / NA</b>         | <b>\$0.00</b>         |
|                    | No Activities Assigned to this Bid Item.           |               |                            |                       |
| <b>CLIN 0002AA</b> | <b>First 18,000 tons</b>                           | <b>18,000</b> | <b>\$22.50 / TN</b>        | <b>\$405,000.00</b>   |
| 2001               | Furnish & Place Fill Stone - 1st 18,000 Tons       |               |                            | \$405,000.00          |
|                    |  |               |                            | \$405,000.00          |
| <b>CLIN 0002AB</b> | <b>Over 10,000 tons</b>                            | <b>2,000</b>  | <b>\$22.50 / TN</b>        | <b>\$45,000.00</b>    |
| 2101               | Furnish & Place Fill Stone - Over 18,000 Tons      |               |                            | \$45,000.00           |
|                    |  |               |                            | \$45,000.00           |
| <b>CLIN 0003</b>   | <b>Underlayer Stone:</b>                           | <b>0</b>      | <b>\$0.00 / NA</b>         | <b>\$0.00</b>         |
|                    | No Activities Assigned to this Bid Item.           |               |                            |                       |
| <b>CLIN 0003AA</b> | <b>First 4,500 Tons</b>                            | <b>4,500</b>  | <b>\$31.50 / TN</b>        | <b>\$141,750.00</b>   |
| 3001               | Furnish & Place Underlayer Stone - 1st 4,500 Tons  |               |                            | \$141,750.00          |
|                    |  |               |                            | \$141,750.00          |
| <b>CLIN 0003AB</b> | <b>Over 4,500 tons</b>                             | <b>450</b>    | <b>\$31.50 / TN</b>        | <b>\$14,175.00</b>    |
| 3101               | Furnish & Place Underlayer Stone - Over 4,500 Tons |               |                            | \$14,175.00           |
|                    |  |               |                            | \$14,175.00           |
| <b>CLIN 0004</b>   | <b>Scour Stone:</b>                                | <b>0</b>      | <b>\$0.00 / NA</b>         | <b>\$0.00</b>         |
|                    |  |               |                            |                       |



US Army Corps  
of Engineers

## Current Activity Summary

08 Jul 2002

Project Name: Repair of North & South Piers, Baloney Harbor, MI  
Contract Number: DACW35-02-C-####

Location Name

| Activity Number                          | Activity Description                            | QUANTITY     | UNIT PRICE          | AMOUNT              |
|--|---|--------------|---------------------|---------------------|
| <b>CLIN 0004</b>                         | <b>Scour Stone: (Continued)</b>                 | <b>0</b>     | <b>\$0.00 / NA</b>  | <b>\$0.00</b>       |
| No Activities Assigned to this Bid Item. |   |              |                     |                     |
| <b>CLIN 0004AA</b>                       | <b>First 3,500 tons</b>                         | <b>3,500</b> | <b>\$27.50 / TN</b> | <b>\$96,250.00</b>  |
| 4001                                     | Furnish & Place Scour Stone - 1st 3,500 Tons    |              |                     | \$96,250.00         |
|  |   |              |                     | \$96,250.00         |
| <b>CLIN 0004AB</b>                       | <b>Over 3,500 tons</b>                          | <b>600</b>   | <b>\$27.50 / TN</b> | <b>\$16,500.00</b>  |
| 4101                                     | Furnish & Place Scour Stone - Over 3,500 Tons   |              |                     | \$16,500.00         |
|  |   |              |                     | \$16,500.00         |
| <b>CLIN 0005</b>                         | <b>Bedding Stone:</b>                           | <b>0</b>     | <b>\$0.00 / NA</b>  | <b>\$0.00</b>       |
| No Activities Assigned to this Bid Item. |   |              |                     |                     |
| <b>CLIN 0005AA</b>                       | <b>First 3,000 tons</b>                         | <b>3,000</b> | <b>\$28.00 / TN</b> | <b>\$84,000.00</b>  |
| 5001                                     | Furnish & Place Bedding Stone - 1st 3,000 Tons  |              |                     | \$84,000.00         |
|  |   |              |                     | \$84,000.00         |
| <b>CLIN 0005AB</b>                       | <b>Over 3,000 tons</b>                          | <b>600</b>   | <b>\$28.00 / TN</b> | <b>\$16,800.00</b>  |
| 5101                                     | Furnish & Place Bedding Stone - Over 3,000 Tons |              |                     | \$16,800.00         |
|  |   |              |                     | \$16,800.00         |
| <b>CLIN 0006</b>                         | <b>Armor Stone:</b>                             | <b>0</b>     | <b>\$0.00 / NA</b>  | <b>\$0.00</b>       |
| No Activities Assigned to this Bid Item. |   |              |                     |                     |
| <b>CLIN 0006AA</b>                       | <b>First 6,000 tons</b>                         | <b>6,000</b> | <b>\$34.00 / TN</b> | <b>\$204,000.00</b> |
| 6001                                     | Furnish & Place Armor Stone - 1st 6,000 Tons    |              |                     | \$204,000.00        |
|  |   |              |                     | \$204,000.00        |
| <b>CLIN 0006AB</b>                       | <b>Over 6,000 tons</b>                          | <b>825</b>   | <b>\$34.00 / TN</b> | <b>\$28,050.00</b>  |
| 6101                                     | Furnish & Place Armor Stone - Over 6,000 Tons   |              |                     | \$28,050.00         |
|  |   |              |                     | \$28,050.00         |
| Sum of CLINs                             |   |              |                     | \$4,489,312.18      |
| Sum of Activities                        |   |              |                     | \$4,489,312.18      |
| Difference                               |   |              |                     | \$0.00              |



## INITIAL INSPECTION WORKSHEET

DEFINABLE FEATURE OF WORK : Site Cast Concrete

### A. ACTIVITIES INCLUDED UNDER Site Cast Concrete -

ABC Company, Inc

|       |  |                    |
|-------|--|--------------------|
| 1008A | Furnish Rebar                          | \$135,000.00       |
| 1008B | Place Concrete (2000 CY @ \$250.00/CY) | \$500,000.00       |
|       |  | <hr/> \$635,000.00 |

### B. QUALITY CONTROL REQUIREMENTS -

#### SUBMITTALS REQUIRED -

|       |    |  |   |               |
|-------|----|--|---|---------------|
| 00700 | 1  | SF 1413 for Subcontracts                 |   | Not submitted |
| 03250 | 1  | Expansion Joint Materials                | A | Approved      |
| 03307 | 1  | Batching and Mixing Equipment            | F | Receipt       |
| 03307 | 2  | Conveying and Placement Equipment        | F | Receipt       |
| 03307 | 3  | Reinforcing Steel (Mat Steel, Bar Steel) | A | Approved      |
| 03307 | 4  | Concrete Mixture Proportions;            | A | Approved      |
| 03307 | 5  | Cementitious Material                    | A | Approved      |
| 03307 | 6  | Aggregates                               | A | Approved      |
| 03307 | 7  | Manufacturer's Literature                | A | Approved      |
| 03307 | 8  | Batching & Mixing Equipment - Redi-Mix   | F | Receipt       |
| 03307 | 9  | Conveying & Placing Equipment - Redi-Mix | F | Receipt       |
| 03307 | 10 | Concrete Mix Proportions - Redi-Mix      | A | Approved      |
| 03307 | 11 | Cementitious Material - Redi-Mix         | A | Approved      |
| 03307 | 12 | Aggregates - Redi Mix                    | A | Approved      |
| 03307 | 13 | Manufacturer's Data; AEA - Redi-Mix      | A | Approved      |
| 03307 | 14 | Manufacturer's Data; WRA - Redi-Mix      | A | Approved      |
| 05500 | 2  | Welders                                  | F | Receipt       |
| 05552 | 4  | Mill Certs - Ladder Grab Rails           | A | Approved      |

#### QC TESTS -

|            |  |               |
|------------|--|---------------|
| CT # 00001 | Obtain 1 Cylinder for strength testing at 7 days and 2 Cylinders for 28 days. Minimum of one set per day or 1 set per every 150 CY placed. (ASTM C-94)<br>Required strength at 7 Days = 2,800 p.s.i.; 28 Days = 4,000 p.s.i. | Not Performed |
| CT # 00002 | Check Batch slips for water/cement ratio not to exceed 0.40 by weight  | Not Performed |
| CT # 00003 | Check Slump at both mixer and discharge ends:<br>Pumped = 3" - 7" at discharge<br>Maximum of 5" at Mixer if no admixture used<br>Maximum of 7" at mixer if admixture is used<br>2 checks per shift is minimum required       | Not Performed |
| CT # 00004 | 2 Air Content tests required per shift. Check approved mix design for maximum and minimum values acceptable.   | Not Performed |

### C. QA/QC PUNCH LIST ITEMS -

## INITIAL INSPECTION WORKSHEET

DEFINABLE FEATURE OF WORK : Site Cast Concrete

### C. QA/QC PUNCH LIST ITEMS - Cont.

INCLUDE ADDITIONAL COMMENTS ON DAILY REPORT

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### D. LABOR RATES -

| LABOR<br>CLASSIFICATIONS | BASIC<br>RATE | FRINGE<br>BENEFITS | PLUS<br>% | TOTAL<br>WAGE/HR |
|--------------------------|---------------|--------------------|-----------|------------------|
| <hr/>                    | <hr/>         | <hr/>              | <hr/>     | <hr/>            |
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### E. INSPECTION CHECKS -

1. Check rebar for proper bar sizes, per approved shop drawings.
2. Check for 3" clearance of rebar from form sides and top surface.
3. Check for proper use of concrete vibrators
4. Check for correct finish elevations.
5. Concrete finish shall meet approval of on-site Government Representative. Make sure all finishers are aware of approved finishing method and degree of brooming.
6. Ensure embedded items are not displaced during placement and finishing of the concrete.
7. 

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8. 

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9. 

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10. 

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IN COMPLIANCE  
Yes/ No/ NA

|       |       |       |
|-------|-------|-------|
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### F. JOB SITE SAFETY -

1. All employees working over water are required to wear workvests (PFDs)
2. All employees are to wear hard hats.
3. Concrete Pump must be shut down prior to cleaning.
4. Review Activity Hazard Analysis for Concrete Work prior to performing this work.
5. 

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6. 

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7. 

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8. 

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IN COMPLIANCE  
Yes/ No/ NA

|       |       |       |
|-------|-------|-------|
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### G. QA Evaluation Notes -

1. 

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2. 

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3. 

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4. 

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DISCUSSED  
Yes/ No/ NA

|       |       |       |
|-------|-------|-------|
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**PREPARATORY INSPECTION WORKSHEET**

DEFINABLE FEATURE OF WORK : Site Cast Concrete

**A. ACTIVITIES INCLUDED UNDER Site Cast Concrete -**

ABC Company, Inc.

|       |  |                    |
|-------|--|--------------------|
| 1008A | Furnish Rebar                          | \$135,000.00       |
| 1008B | Place Concrete (2000 CY @ \$250.00/CY) | \$500,000.00       |
|       |  | <hr/> \$635,000.00 |

**B. QUALITY CONTROL REQUIREMENTS -****SUBMITTALS REQUIRED -**

|       |    |  |   |               |
|-------|----|--|---|---------------|
| 00700 | 1  | SF 1413 for Subcontracts                 |   | Not submitted |
| 03250 | 1  | Expansion Joint Materials                | A | Approved      |
| 03307 | 1  | Batching and Mixing Equipment            | F | Receipt       |
| 03307 | 2  | Conveying and Placement Equipment        | F | Receipt       |
| 03307 | 3  | Reinforcing Steel (Mat Steel, Bar Steel) | A | Approved      |
| 03307 | 4  | Concrete Mixture Proportions;            | A | Approved      |
| 03307 | 5  | Cementitious Material                    | A | Approved      |
| 03307 | 6  | Aggregates                               | A | Approved      |
| 03307 | 7  | Manufacturer's Literature                | A | Approved      |
| 03307 | 8  | Batching & Mixing Equipment - Redi-Mix   | F | Receipt       |
| 03307 | 9  | Conveying & Placing Equipment - Redi-Mix | F | Receipt       |
| 03307 | 10 | Concrete Mix Proportions - Redi-Mix      | A | Approved      |
| 03307 | 11 | Cementitious Material - Redi-Mix         | A | Approved      |
| 03307 | 12 | Aggregates - Redi Mix                    | A | Approved      |
| 03307 | 13 | Manufacturer's Data; AEA - Redi-Mix      | A | Approved      |
| 03307 | 14 | Manufacturer's Data; WRA - Redi-Mix      | A | Approved      |
| 05500 | 2  | Welders                                  | F | Receipt       |
| 05552 | 4  | Mill Certs - Ladder Grab Rails           | A | Approved      |

**C. QA/QC PUNCH LIST ITEMS -**

INCLUDE ADDITIONAL COMMENTS ON DAILY REPORT

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**D. LABOR RATES -**

| LABOR<br>CLASSIFICATIONS | BASIC<br>RATE | FRINGE<br>BENEFITS | PLUS<br>% | TOTAL<br>WAGE/HR |
|--------------------------|---------------|--------------------|-----------|------------------|
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## PREPARATORY INSPECTION WORKSHEET

DEFINABLE FEATURE OF WORK : Site Cast Concrete

### E. REVIEW CONTRACT DRAWINGS AND SPECIFICATIONS -

DRAWING / SPEC. NO

COMMENTS / CONFLICTS

|       |       |
|-------|-------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

DISCUSSED

Yes/ No/ NA

- |    |       |       |       |
|----|-------|-------|-------|
| 1. | _____ | _____ | _____ |
| 2. | _____ | _____ | _____ |
| 3. | _____ | _____ | _____ |
| 4. | _____ | _____ | _____ |

### F. REPETITIVE DEFICIENCIES FOUND ON PREVIOUS PROJECTS -

DISCUSSED

Yes/ No/ NA

- |    |       |       |       |
|----|-------|-------|-------|
| 1. | _____ | _____ | _____ |
| 2. | _____ | _____ | _____ |
| 3. | _____ | _____ | _____ |
| 4. | _____ | _____ | _____ |

### G. INSPECTION CHECKS -

IN COMPLIANCE

Yes/ No/ NA

- |    |       |       |       |
|----|-------|-------|-------|
| 1. | _____ | _____ | _____ |
| 2. | _____ | _____ | _____ |
| 3. | _____ | _____ | _____ |
| 4. | _____ | _____ | _____ |

### H. JOB SITE SAFETY -

IN COMPLIANCE

Yes/ No/ NA

- |    |       |       |       |
|----|-------|-------|-------|
| 1. | _____ | _____ | _____ |
| 2. | _____ | _____ | _____ |
| 3. | _____ | _____ | _____ |
| 4. | _____ | _____ | _____ |

### I. QUALITY ASSURANCE EVALUATION NOTES -

DISCUSSED

Yes/ No/ NA

- |    |       |       |       |
|----|-------|-------|-------|
| 1. | _____ | _____ | _____ |
| 2. | _____ | _____ | _____ |
| 3. | _____ | _____ | _____ |
| 4. | _____ | _____ | _____ |

|   |  |   |                     |                       |                             |                            |  |          |  |   |           |          |                     |  |           |          |            |   |           |          |            |   |           |
|---|--|---|---------------------|-----------------------|-----------------------------|----------------------------|--|----------|--|---|-----------|----------|---------------------|--|-----------|----------|------------|---|-----------|----------|------------|---|-----------|
| <b>CONTRACTORS QUALITY CONTROL REPORT (QCR)</b><br><b>DAILY LOG OF CONSTRUCTION - CIVIL</b>   |  | REPORT NUMBER<br>92                      Page 1 of 2  |                     |                       |                             |                            |  |          |  |   |           |          |                     |  |           |          |            |   |           |          |            |   |           |
|   |  | DATE<br>22 Jun 2001 - Friday  |                     |                       |                             |                            |  |          |  |   |           |          |                     |  |           |          |            |   |           |          |            |   |           |
| PROJECT<br>North & South Pier Repair, Baloney Harbor, MI  |  | CONTRACT NUMBER<br>DACW35-02-C-####    NA   |                     |                       |                             |                            |  |          |  |   |           |          |                     |  |           |          |            |   |           |          |            |   |           |
| CONTRACTOR<br>ABC Company, Inc. 555 Imagination Road, Fantasy, MI 49494   |  | WEATHER<br>Weather Caused No Delay<br>Temperature Min 80 °F, Max 63 °F; 0.01 IN Precipitation; 10 MPH Wind          |                     |                       |                             |                            |  |          |  |   |           |          |                     |  |           |          |            |   |           |          |            |   |           |
| <b>QC NARRATIVES</b><br><br><b>Activities in Progress:</b><br>Set and drove 24 sheets of SSP<br><br>Installing Miscellaneous Steel Waler sections c/s 4+00W to 4+50W<br><br>123 Tons of Fill stone placed between existing structure and req'd SSP wall from c/s 6+25 W to 6+75W.<br><br><b>Safety Inspection / Safety Meetings:</b><br>Weekly Safety Meeting held today - Use of PPE - Hrad hats & Work Vests  |  |   |                     |                       |                             |                            |  |          |  |   |           |          |                     |  |           |          |            |   |           |          |            |   |           |
| <b>PREP/INITIAL DATES</b> (Preparatory and initial dates held and advance notice)<br><br><b>A preparatory inspection was held today for the following feature:</b><br>Miscellaneous Steel & Handrail<br><br><b>An initial inspection was held today for the following feature:</b><br>Miscellaneous Steel & Handrail  |  |   |                     |                       |                             |                            |  |          |  |   |           |          |                     |  |           |          |            |   |           |          |            |   |           |
| <b>ACTIVITY START/FINISH</b><br><br><b>The following activity was started today:</b><br><table border="0"> <tr> <td><u>Activity No</u></td> <td><u>Description</u></td> </tr> <tr> <td>2001</td> <td>Furnish &amp; Place Fill Stone - 1st 18,000 Tons</td> </tr> </table><br><b>No activities were finished today</b>   |  |   |                     | <u>Activity No</u>    | <u>Description</u>          | 2001                       | Furnish & Place Fill Stone - 1st 18,000 Tons |          |  |   |           |          |                     |  |           |          |            |   |           |          |            |   |           |
| <u>Activity No</u>  | <u>Description</u>                           |   |                     |                       |                             |                            |  |          |  |   |           |          |                     |  |           |          |            |   |           |          |            |   |           |
| 2001  | Furnish & Place Fill Stone - 1st 18,000 Tons |   |                     |                       |                             |                            |  |          |  |   |           |          |                     |  |           |          |            |   |           |          |            |   |           |
| <b>QC REQUIREMENTS</b><br><br><b>The following 4 QC requirements were completed today:</b><br><table border="0"> <tr> <td><u>Requirement No</u></td> <td><u>Type</u></td> <td><u>Description</u></td> <td><u>Results</u></td> </tr> <tr> <td>CT-00001</td> <td>QC Testing</td> <td>Check Plumbness of piles during driving</td> <td>Completed</td> </tr> <tr> <td>CT-00002</td> <td>QC Testing</td> <td>Check horizontal placement of piling (Check for Pile-Walk)</td> <td>Completed</td> </tr> <tr> <td>CT-00003</td> <td>QC Testing</td> <td>Check vibratory hammer driving rate for SSP - 12"/minute is the minimum rate. If exceeded, switch to Impact hammer.</td> <td>Completed</td> </tr> <tr> <td>CT-00004</td> <td>QC Testing</td> <td>Video Tape Interlocks of piling after driving SSP</td> <td>Completed</td> </tr> </table> |  |   |                     | <u>Requirement No</u> | <u>Type</u>                 | <u>Description</u>         | <u>Results</u>                               | CT-00001 | QC Testing   | Check Plumbness of piles during driving | Completed | CT-00002 | QC Testing          | Check horizontal placement of piling (Check for Pile-Walk) | Completed | CT-00003 | QC Testing | Check vibratory hammer driving rate for SSP - 12"/minute is the minimum rate. If exceeded, switch to Impact hammer. | Completed | CT-00004 | QC Testing | Video Tape Interlocks of piling after driving SSP | Completed |
| <u>Requirement No</u>   | <u>Type</u>                                  | <u>Description</u>  | <u>Results</u>      |                       |                             |                            |  |          |  |   |           |          |                     |  |           |          |            |   |           |          |            |   |           |
| CT-00001  | QC Testing                                   | Check Plumbness of piles during driving   | Completed           |                       |                             |                            |  |          |  |   |           |          |                     |  |           |          |            |   |           |          |            |   |           |
| CT-00002  | QC Testing                                   | Check horizontal placement of piling (Check for Pile-Walk)  | Completed           |                       |                             |                            |  |          |  |   |           |          |                     |  |           |          |            |   |           |          |            |   |           |
| CT-00003  | QC Testing                                   | Check vibratory hammer driving rate for SSP - 12"/minute is the minimum rate. If exceeded, switch to Impact hammer. | Completed           |                       |                             |                            |  |          |  |   |           |          |                     |  |           |          |            |   |           |          |            |   |           |
| CT-00004  | QC Testing                                   | Video Tape Interlocks of piling after driving SSP   | Completed           |                       |                             |                            |  |          |  |   |           |          |                     |  |           |          |            |   |           |          |            |   |           |
| <b>QA/QC PUNCH LIST</b> (Describe QC Punch List items issued, Report QC and QA Punch List items corrected)<br><br><b>The following QC Punch List item was issued today:</b><br><table border="0"> <tr> <td><u>Item No</u></td> <td><u>Location</u></td> <td><u>Description</u></td> </tr> <tr> <td>QC-00001</td> <td>4+25W</td> <td>Cut-off sheets to finish grade from 4+00W to 4+50W</td> </tr> </table><br><b>No Punch List items were corrected today</b>   |  |   |                     | <u>Item No</u>        | <u>Location</u>             | <u>Description</u>         | QC-00001                                     | 4+25W    | Cut-off sheets to finish grade from 4+00W to 4+50W |   |           |          |                     |  |           |          |            |   |           |          |            |   |           |
| <u>Item No</u>  | <u>Location</u>                              | <u>Description</u>  |                     |                       |                             |                            |  |          |  |   |           |          |                     |  |           |          |            |   |           |          |            |   |           |
| QC-00001  | 4+25W  | Cut-off sheets to finish grade from 4+00W to 4+50W  |                     |                       |                             |                            |  |          |  |   |           |          |                     |  |           |          |            |   |           |          |            |   |           |
| <b>CONTRACTORS ON SITE</b> (Report first and/or last day contractors were on site)<br><br><b>No contractors had their first or last day on site today</b>   |  |   |                     |                       |                             |                            |  |          |  |   |           |          |                     |  |           |          |            |   |           |          |            |   |           |
| <b>LABOR HOURS</b><br><br><b>The following labor hours were Reported today:</b><br><table border="0"> <tr> <td><u>Employer</u></td> <td><u>Labor Classification</u></td> <td><u>Number of Employees</u></td> <td><u>Hours Worked</u></td> </tr> <tr> <td></td> <td>IRONWORKER</td> <td>3.0</td> <td>10.0</td> </tr> <tr> <td></td> <td>PILE DRIVING SETTER</td> <td>2.0</td> <td>10.0</td> </tr> </table>   |  |   |                     | <u>Employer</u>       | <u>Labor Classification</u> | <u>Number of Employees</u> | <u>Hours Worked</u>                          |          | IRONWORKER   | 3.0                                     | 10.0      |          | PILE DRIVING SETTER | 2.0  | 10.0      |          |            |   |           |          |            |   |           |
| <u>Employer</u>   | <u>Labor Classification</u>                  | <u>Number of Employees</u>  | <u>Hours Worked</u> |                       |                             |                            |  |          |  |   |           |          |                     |  |           |          |            |   |           |          |            |   |           |
|   | IRONWORKER                                   | 3.0   | 10.0                |                       |                             |                            |  |          |  |   |           |          |                     |  |           |          |            |   |           |          |            |   |           |
|   | PILE DRIVING SETTER                          | 2.0   | 10.0                |                       |                             |                            |  |          |  |   |           |          |                     |  |           |          |            |   |           |          |            |   |           |

|   |                   |   |                           |  |     |      |     |      |
|---|-------------------|---|---------------------------|--|-----|------|-----|------|
| <b>CONTRACTORS QUALITY CONTROL REPORT (QCR)</b><br><b>DAILY LOG OF CONSTRUCTION - CIVIL</b> |                   | REPORT NUMBER<br>92   |                           | Page 2 of 2  |     |      |     |      |
|   |                   | DATE<br>22 Jun 2001 - Friday  |                           |  |     |      |     |      |
| PROJECT North & South Pier Repair, Baloney Harbor, MI                                       |                   | CONTRACT NUMBER<br>DACW35-02-C-####   |                           |  |     |      |     |      |
| ABC Company, Inc. PILE DRIVER OPERATOR<br>Total hours worked to date: 30.0                  |                   | Total   |                           | <table> <tr> <td>1.0</td> <td>10.0</td> </tr> <tr> <td>6.0</td> <td>30.0</td> </tr> </table> | 1.0 | 10.0 | 6.0 | 30.0 |
| 1.0   | 10.0              |   |                           |  |     |      |     |      |
| 6.0   | 30.0              |   |                           |  |     |      |     |      |
| <b>EQUIPMENT HOURS</b><br><b>The following equipment hours were Reported today:</b>         |                   |   |                           |  |     |      |     |      |
| Equipment ID  | Description       | Standby Hours   | Operating Hours           |  |     |      |     |      |
| 00000002  | Vibratory Hammer  | 0.0   | 10.0                      |  |     |      |     |      |
| 00000003  | Arc Welder        | 0.0   | 8.0                       |  |     |      |     |      |
| 00000004  | Crane - 100' Boom | 0.0   | 10.0                      |  |     |      |     |      |
| Total operating hours to date: 28.0   |                   | Total   | 28.0                      |  |     |      |     |      |
| <b>ACCIDENT REPORTING</b> (Describe accidents)<br><b>No accidents reported today</b>        |                   |   |                           |  |     |      |     |      |
|   |                   |   |                           |  |     |      |     |      |
| CONTRACTOR CERTIFICATION  |                   | On behalf of the contractor, I certify that this Report is complete and correct and all equipment and material used and work performed during this Reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as noted above. |                           |  |     |      |     |      |
| QC REPRESENTATIVE'S SIGNATURE   |                   | DATE  | SUPERINTENDENT'S INITIALS | DATE   |     |      |     |      |

| <b>TRANSMITTAL OF SHOP DRAWINGS, EQUIPMENT DATA, MATERIAL SAMPLES, OR<br/>MANUFACTURER'S CERTIFICATES OF COMPLIANCE</b><br>(Read instructions on the reverse side prior to initiating this form) |   |  |  |                             | DATE<br><div style="text-align: center;">06/06/2002</div>   |                         | TRANSMITTAL NO.<br><div style="text-align: center;">02486-37.2</div>   |                 |
|--|---|--|--|-----------------------------|---|-------------------------|--|-----------------|
| <b>SECTION I - REQUEST FOR APPROVAL OF THE FOLLOWING ITEMS</b>   |   |  |  |                             |   |                         |  |                 |
| TO: Grand Haven Area Office<br>307 South Harbor Street<br>P. O. Box 629<br>Grand Haven, MI 49417   |   |  | FROM: ABC Company, Inc<br>555 Imagination Park Road<br>Fantasy, MI 49494 |                             | CONTRACT NO.<br><div style="text-align: center;">DACW35-02-C-#### NA</div>  |                         | CHECK ONE:<br><input type="checkbox"/> THIS IS A NEW TRANSMITTAL<br><input checked="" type="checkbox"/> THIS IS A RESUBMITTAL OF TRANSMITTAL <u>02486-37.1</u> |                 |
| SPECIFICATION SEC. NO. (Cover only one section with each transmittal)<br><div style="text-align: center;">02486</div>  |   |  | PROJECT TITLE AND LOCATION   |                             |   |                         | CHECK ONE: THIS TRANSMITTAL IS FOR <input checked="" type="checkbox"/> FIO <input type="checkbox"/> GOV'T. APPROVAL  |                 |
| ITEM NO.   | DESCRIPTION OF ITEM SUBMITTED<br>(Type size, model number/etc.) | MFG OR CONTR. CAT., CURVE DRAWING OR BROCHURE NO.<br>(See instruction no. 8) | NO. OF COPIES  | CONTRACT REFERENCE DOCUMENT |   | FOR CONTRACTOR USE CODE | VARIATION<br>(See Instruction No. 6)   | FOR CE USE CODE |
| a.   | b.  | c.   | d.   | SPEC. PARA. NO.<br>e.       | DRAWING SHEET NO.<br>f.   | g.                      | h.   | i.              |
| 12   | Production Test Results   | DATA   | 3  | 3.2.3.4                     |   |                         |  | F               |
|  |   |  |  |                             |   |                         |  |                 |
|  |   |  |  |                             |   |                         |  |                 |
|  |   |  |  |                             |   |                         |  |                 |
|  |   |  |  |                             |   |                         |  |                 |
|  |   |  |  |                             |   |                         |  |                 |
|  |   |  |  |                             |   |                         |  |                 |
|  |   |  |  |                             |   |                         |  |                 |
|  |   |  |  |                             |   |                         |  |                 |
|  |   |  |  |                             |   |                         |  |                 |
|  |   |  |  |                             |   |                         |  |                 |
| REMARKS  |   |  |  |                             | I certify that the above submitted items have been reviewed in detail and are correct and in the strict conformance with the contract drawings and specifications except as otherwise stated.<br><br><div style="text-align: right; border-top: 1px solid black; width: 100%;">NAME AND SIGNATURE OF CONTRACTOR</div> |                         |  |                 |
| <b>SECTION II - APPROVAL ACTION</b>  |   |  |  |                             |   |                         |  |                 |
| ENCLOSURES RETURNED (List by item No.)   |   |  | NAME, TITLE AND SIGNATURE OF APPROVING AUTHORITY                         |                             |   |                         | DATE   |                 |

General Decision Number: WI030019 07/30/2004 WI19

Superseded General Decision Number: WI020019

State: Wisconsin

Construction Types: Heavy

Counties: Wisconsin Statewide.

HEAVY CONSTRUCTION PROJECTS (Excluding Tunnel, Sewer, and Water Lines), AND HOPPER DREDGE PROJECTS

| Modification Number | Publication Date |
|---------------------|------------------|
| 0                   | 06/13/2003       |
| 1                   | 03/12/2004       |
| 2                   | 04/16/2004       |
| 3                   | 06/25/2004       |
| 4                   | 07/16/2004       |
| 5                   | 07/30/2004       |

BOIL0107-001 01/01/2004

|                            | Rates    | Fringes |
|----------------------------|----------|---------|
| Boilermaker                |          |         |
| Boilermaker.....           | \$ 27.64 | 14.52   |
| Small Boiler Repair (under |          |         |
| 25,000 lbs/hr).....        | \$ 22.11 | 10.45   |

---

BRWI0001-002 06/01/2004

CRAWFORD, JACKSON, JUNEAU, LA CROSSE, MONROE, TREMPLEAU, AND VERNON COUNTIES

|                 | Rates    | Fringes |
|-----------------|----------|---------|
| Bricklayer..... | \$ 24.88 | 11.55   |

---

BRWI0002-002 06/01/2004

ASHLAND, BAYFIELD, DOUGLAS, AND IRON COUNTIES

|                 | Rates    | Fringes |
|-----------------|----------|---------|
| Bricklayer..... | \$ 29.64 | 11.35   |

---

BRWI0003-002 06/01/2004

BROWN, DOOR, FLORENCE, KEWAUNEE, MARINETTE, AND OCONTO COUNTIES

|                 | Rates    | Fringes |
|-----------------|----------|---------|
| Bricklayer..... | \$ 24.88 | 11.50   |

---

BRWI0004-002 06/01/2004

KENOSHA, RACINE, AND WALWORTH COUNTIES

| Rates | Fringes |
|-------|---------|
|-------|---------|

|                 |          |       |
|-----------------|----------|-------|
| Bricklayer..... | \$ 28.38 | 11.95 |
|-----------------|----------|-------|

-----  
BRWI0006-002 06/01/2004

ADAMS, CLARK, FOREST, LANGLADE, LINCOLN, MARATHON, MENOMINEE,  
ONEIDA, PORTAGE, PRICE, TAYLOR, VILAS AND WOOD COUNTIES

|                 |          |         |
|-----------------|----------|---------|
|                 | Rates    | Fringes |
| Bricklayer..... | \$ 24.98 | 11.40   |

-----  
BRWI0007-002 06/01/2004

GREEN, LAFAYETTE, AND ROCK COUNTIES

|                 |          |         |
|-----------------|----------|---------|
|                 | Rates    | Fringes |
| Bricklayer..... | \$ 26.12 | 11.95   |

-----  
\* BRWI0008-002 06/01/2004

MILWAUKEE, OZAUKEE, WASHINGTON, AND WAUKESHA COUNTIES

|                 |          |         |
|-----------------|----------|---------|
|                 | Rates    | Fringes |
| Bricklayer..... | \$ 28.38 | 11.15   |

-----  
BRWI0009-001 06/01/2004

GREEN LAKE, MARQUETTE, OUTAGAMIE, SHAWANO, WAUPACA, WASHARA,  
AND WINNEBAGO COUNTIES

|                 |          |         |
|-----------------|----------|---------|
|                 | Rates    | Fringes |
| Bricklayer..... | \$ 24.88 | 11.50   |

-----  
BRWI0011-002 06/01/2004

CALUMET, FOND DU LAC, MANITOWOC, AND SHEBOYGAN COUNTIES

|                 |          |         |
|-----------------|----------|---------|
|                 | Rates    | Fringes |
| Bricklayer..... | \$ 24.88 | 11.50   |

-----  
BRWI0013-002 06/01/2004

DANE, GRANT, IOWA, AND RICHLAND COUNTIES

|                 |          |         |
|-----------------|----------|---------|
|                 | Rates    | Fringes |
| Bricklayer..... | \$ 26.42 | 11.70   |

-----  
BRWI0019-002 06/01/2004

BARRON, BUFFALO, BURNETT, CHIPPEWA, DUNN, EAU CLAIRE, PEPIN,  
PIERCE, POLK, RUSK, ST. CROIX, SAWYER AND WASHBURN COUNTIES

|  |       |         |
|--|-------|---------|
|  | Rates | Fringes |
|--|-------|---------|

|                 |          |       |
|-----------------|----------|-------|
| Bricklayer..... | \$ 24.53 | 11.85 |
|-----------------|----------|-------|

-----  
BRWI0021-002 06/01/2004

DODGE AND JEFFERSON COUNTIES

|                 |          |         |
|-----------------|----------|---------|
|                 | Rates    | Fringes |
| Bricklayer..... | \$ 26.69 | 11.38   |

-----  
BRWI0034-002 06/01/2004

COLUMBIA AND SAUK COUNTIES

|                 |          |         |
|-----------------|----------|---------|
|                 | Rates    | Fringes |
| Bricklayer..... | \$ 26.47 | 11.60   |

-----  
CARP0087-001 05/01/2004

BURNETT (W. of Hwy 48), PIERCE (W. of Hwy 29), POLK (W. of Hwys 35, 48 & 65), AND ST. CROIX (W. of Hwy 65) COUNTIES

|                                |          |         |
|--------------------------------|----------|---------|
|                                | Rates    | Fringes |
| Carpenter & Piledrivermen..... | \$ 24.41 | 9.91    |

-----  
\* CARP0252-002 06/01/2004

ADAMS, BARRON, BAYFIELD (Eastern 2/3), BROWN, BUFFALO, BURNETT (E. of Hwy 48), CALUMET, CHIPPEWA, CLARK, COLUMBIA, CRAWFORD, DANE, DODGE, DOOR, DUNN, EAU CLAIRE, FLORENCE (except area bordering Michigan State Line), FOND DU LAC, FOREST, GRANT, GREEN, GREEN LAKE, IOWA, IRON, JACKSON, JEFFERSON, JUNEAU, KEWAUNEE, LA CROSSE, LAFAYETTE, LANGLADE, LINCOLN, MANITOWOC, MARATHON, MARINETTE (except N.E. corner), MARQUETTE, MENOMINEE, MONROE, OCONTO, ONEIDA, OUTAGAMIE, PEPIN, PIERCE (E. of Hwys 29 & 65), POLK (E. of Hwys 35, 48 & 65), PORTAGE, PRICE, RICHLAND, ROCK, RUSK, SAUK, SAWYER, SHAWANO, SHEBOYGAN, ST CROIX (E. of Hwy 65), TAYLOR, TREMPLEAU, VERNON, VILAS, WALWORTH, WASHBURN, WAUPACA, WAUSHARA, WINNEBAGO, AND WOOD COUNTIES

|                 |          |         |
|-----------------|----------|---------|
|                 | Rates    | Fringes |
| Carpenters      |          |         |
| Carpenter.....  | \$ 24.31 | 10.43   |
| Millwright..... | \$ 25.91 | 10.43   |
| Piledriver..... | \$ 24.81 | 10.43   |

-----  
\* CARP0252-010 06/01/2004

ASHLAND COUNTY

|                  |          |         |
|------------------|----------|---------|
|                  | Rates    | Fringes |
| Carpenters       |          |         |
| Carpenter.....   | \$ 22.02 | 10.43   |
| Millwright.....  | \$ 25.91 | 10.43   |
| Pile Driver..... | \$ 24.81 | 10.43   |



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CARP0264-003 06/01/2004

KENOSHA, MILWAUKEE, OZAUKEE, RACINE, WAUKESHA, AND WASHINGTON  
COUNTIES

|                | Rates    | Fringes |
|----------------|----------|---------|
| Carpenter..... | \$ 27.34 | 11.01   |

-----  
CARP2337-001 06/01/2004

|               | Rates    | Fringes |
|---------------|----------|---------|
| Piledriverman |          |         |
| Zone A.....   | \$ 25.76 | 14.37   |
| Zone B.....   | \$ 22.98 | 14.37   |

ZONE DEFINITIONS

ZONE A: MILWAUKEE, OZAUKEE, WAUKESHA AND WASHINGTON COUNTIES  
ZONE B: KENOSHA & RACINE COUNTIES

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CARP2337-003 06/01/2004

|             | Rates    | Fringes |
|-------------|----------|---------|
| Millwright  |          |         |
| Zone A..... | \$ 26.32 | 13.98   |
| Zone B..... | \$ 25.27 | 13.78   |
| Zone C..... | \$ 25.17 | 13.78   |
| Zone D..... | \$ 25.32 | 13.78   |
| Zone E..... | \$ 25.37 | 13.53   |

ZONE DEFINITIONS

ZONE A: MILWAUKEE, OZAUKEE, WAUKESHA AND WASHINGTON COUNTIES  
ZONE B: KENOSHA COUNTY  
ZONE C: RACINE COUNTY (Area East of Hwy 75)  
ZONE D: JEFFERSON (South of I-94), RACINE (West of Hwy 75),  
and WALWORTH COUNTIES  
ZONE E: DODGE AND JEFFERSON (North of I-94) COUNTIES

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ELEC0014-002 06/01/2004

ASHLAND, BARRON, BAYFIELD, BUFFALO, BURNETT, CHIPPEWA, CLARK  
(except Maryville, Colby, Unity, Sherman, Fremont, Lynn &  
Sherwood), CRAWFORD, DUNN, EAU CLAIRE, GRANT, IRON, JACKSON, LA  
CROSSE, MONROE, PEPIN, PIERCE, POLK, PRICE, RICHLAND, RUSK, ST  
CROIX, SAWYER, TAYLOR, TREMPPEALEAU, VERNON, AND WASHBURN  
COUNTIES

|                    | Rates    | Fringes    |
|--------------------|----------|------------|
| Electricians:..... | \$ 27.72 | 27.8%+4.00 |

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\* ELEC0127-002 06/01/2004

KENOSHA COUNTY

|  | Rates | Fringes |
|--|-------|---------|
|--|-------|---------|

Electricians:.....\$ 29.33            23.8%+5.00

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\* ELEC0158-002 06/01/2004

BROWN, DOOR, KEWAUNEE, MANITOWOC (except Schleswig),  
MARINETTE(Wausaukee and area South thereof), OCONTO, MENOMINEE  
(East of a line 6 miles West of the West boundary of Oconto  
County), SHAWANO (Except Area North of Townships of Aniwa and  
Hutchins) COUNTIES

Rates                      Fringes

Electricians:.....\$ 25.73            26.75%+6.46

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\* ELEC0159-003 06/01/2004

COLUMBIA, DANE, DODGE (Area West of Hwy 26, except Chester and  
Emmet Townships), GREEN, LAKE (except Townships of Berlin,  
Seneca, and St. Marie), IOWA, MARQUETTE (except Townships of  
Neshkoka, Crystal Lake, Newton, and Springfield), and SAUK  
COUNTIES

Rates                      Fringes

Electricians:.....\$ 27.31            29.2%+5.71

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\* ELEC0219-004 06/01/2004

FLORENCE COUNTY (Townships of Aurora, Commonwealth, Fern,  
Florence and Homestead) AND MARINETTE COUNTY (Township of  
Niagara)

Rates                      Fringes

Electricians:

Electrical contracts over  
\$90,000.....\$ 24.98            11.65  
Electrical contracts under  
\$90,000.....\$ 22.54            11.58

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ELEC0242-005 06/01/2004

DOUGLAS COUNTY

Rates                      Fringes

Electricians:.....\$ 27.42            54.5%

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\* ELEC0388-002 06/01/2004

ADAMS, CLARK (Colby, Freemont, Lynn, Mayville, Sherman,  
Sherwood, Unity), FOREST, JUNEAU, LANGLADE, LINCOLN, MARATHON,  
MARINETTE (Area North of the town of Wausaukee), MENOMINEE  
(Area West of a line 6 miles West of the West boundary of  
Oconto County), ONEIDA, PORTAGE, SHAWANO (Area North of the  
townships of Aniwa and Hutchins), VILAS AND WOOD COUNTIES

Rates                      Fringes

|                            |       |
|----------------------------|-------|
| Electricians:.....\$ 25.00 | 12.16 |
|----------------------------|-------|

-----  
\* ELEC0430-002 06/01/2004

RACINE COUNTY (Except Burlington Township)

|                            |       |         |
|----------------------------|-------|---------|
|                            | Rates | Fringes |
| Electricians:.....\$ 28.77 |       | 13.38   |

-----  
ELEC0494-005 06/01/2004

MILWAUKEE, OZAUKEE, WASHINGTON, AND WAUKESHA COUNTIES

|                            |       |         |
|----------------------------|-------|---------|
|                            | Rates | Fringes |
| Electricians:.....\$ 27.37 |       | 15.85   |

-----  
ELEC0494-006 06/01/2004

CALUMET (Township of New Holstein), FOND DU LAC (Except Waupun), MANITOWOC (Schleswig), and SHEBOYGAN COUNTIES

|                            |       |         |
|----------------------------|-------|---------|
|                            | Rates | Fringes |
| Electricians:.....\$ 24.70 |       | 15.46   |

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\* ELEC0577-003 06/01/2004

CALUMET (except Township of New Holstein), GREEN LAKE (N. part including Townships of Berlin, St Marie, and Seneca), MARQUETTE (N. part including Townships of Crystal Lake, Neshkoro, Newton, and Springfield), OUTAGAMIE, WAUPACA, WAUSHARA, AND WINNEBAGO COUNTIES

|                            |       |         |
|----------------------------|-------|---------|
|                            | Rates | Fringes |
| Electricians:.....\$ 25.15 |       | 12.36   |

-----  
\* ELEC0890-003 06/01/2004

DODGE (Emmet Township only), GREEN, JEFFERSON, LAFAYETTE, RACINE (Burlington Township), ROCK AND WALWORTH COUNTIES

|                            |       |         |
|----------------------------|-------|---------|
|                            | Rates | Fringes |
| Electricians:.....\$ 26.60 |       | 13.32   |

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ELEC0953-001 06/01/2004

|                                      |       |             |
|--------------------------------------|-------|-------------|
|                                      | Rates | Fringes     |
| Line Construction:                   |       |             |
| (1) Lineman.....\$ 29.20             |       | 4.25+28.75% |
| (2) Heavy Equipment Operator\$ 26.28 |       | 4.25+28.75% |
| (3) Equipment Operator.....\$ 23.96  |       | 4.25+28.75% |
| (4) Heavy Groundman Driver..\$ 20.44 |       | 4.25+28.75% |
| (5) Light Groundman Driver..\$ 18.98 |       | 4.25+28.75% |
| (6) Groundman.....\$ 16.06           |       | 4.25+28.75% |

KENOSHA, MILWAUKEE, OZAUCREE, RACINE, WASHINGTON, AND WAUKESHA  
COUNTIES

|                          | Rates    | Fringes |
|--------------------------|----------|---------|
| Power Equipment Operator |          |         |
| Group 1.....             | \$ 30.39 | 14.20   |
| Group 2.....             | \$ 29.89 | 14.20   |
| Group 3.....             | \$ 29.39 | 14.20   |
| Group 4.....             | \$ 29.10 | 14.20   |
| Group 5.....             | \$ 27.22 | 14.20   |
| Group 6.....             | \$ 22.07 | 14.20   |

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Cranes, Tower Cranes, and Derricks with or w/o attachments with a lifting capacity of over 100 tons; or Cranes, Tower Cranes, and Derricks with boom, leads, and/or jib lengths measuring 176 feet or longer; Boring Machines (directional); Master Mechanic

GROUP 2: Cranes, Tower Cranes and Derricks with or without attachments with a lifting capacity of 100 tons or less; or Cranes, Tower Cranes and Derricks with boom, leads and/or jib lengths measuring 175 feet or less; Backhoes (excavators) having a manufacturer's rated capacity of 3 cu yds and over; Caisson Rigs; Pile Drivers; Boring Machines (vertical or horizontal)

GROUP 3: Backhoes (excavators) under 3 cu yd; Traveling Crane (bridge type); Skid Rigs; Dredge Operator; Concrete Paver (over 27E); Concrete Spreader and Distributor; Forklift (machinery- moving / steel erection); Hydro Blaster, 10,000 psi and over

GROUP 4: Material Hoists; Stack Hoists; Hydraulic Backhoe (tractor or truck mounted); Hydraulic Crane, 5 tons or under (tractor or truck mounted); Concrete Pumps; Tractor over 40 hp; Bulldozer over 40 hp; End Loader over 40 hp; Motor Patrol; Scraper Operator; Sideboom; Straddle Carrier; Mechanic and Welder; Bituminous Plant and Paver Operator; Roller over 5 tons; Rail Leveling Machine (Railroad); Tie Placer; Tie Extractor; Tie Tamper; Stone Leveler; Rotary Drill Operator and Blaster; Percussion Drill Operator; Air Track Drill and/or Hammers; Tencher (wheel type or chain type having 8 inch or larger bucket); Milling Machine

GROUP 5: Backfiller; Concrete Auto Breaker (large); Concrete Finishing Machines (road type); Rubber Tired Roller; Concrete Batch Hopper; Concrete Conveyor Systems; Grout Pumps; Concrete Mixers (14S or over); Screw Type Pumps and Gypsum Pumps; Tractor, Bulldozer, End Loader (under 40 hp); Trencher (chain type, bucket under 8 inch); Industrial Locomotives; Rollers under 5 tons; Firemen (pile drivers and derricks); Manhoist; Lift Slab Machines; Robotic Tool Carrier with or without attachments

GROUP 6: Tampers - Compactors (riding type); Assistant

Engineer; A-Frames and Winch Trucks; Concrete Auto Breaker;  
 Hydrohammers (small); Brooms and Sweepers; Hoist (tuggers);  
 Stump Chippers (large); Boats (Tug, Safety, Work Barges,  
 Launch); Shouldering Machine Operator; Screed Operator;  
 Screed Operator; Stone Crushers and Screening Plants;  
 Prestress Machines; Screed Operators (milling machine),  
 Farm or Industrial Tractor Mounted Equipment; Post Hole  
 Digger; Fireman (asphalt plants); Air Compressors, over and  
 under 400 CFM; Generators, over and under 150 KW; Augers  
 (vertical and horizontal); Air, Electric, Hydraulic Jacks  
 (slipform); Skid Steer Loaders (with or without  
 attachments); Boiler Operators (temporary heat);  
 Refrigeration Plant/Freeze Machines; Power Pack  
 Vibratory/Ultra Sound Drivers and Extractors; Welding  
 Machines; Heaters (mechanical); Pumps; Winches (small  
 electric); Oiler and Greaser; Conveyor; Forklifts;  
 Elevators: Automatic Hoists; Pumps (well points);  
 Combination Small Equipment Operators

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 ENGI0139-003 06/01/2004

STATEWIDE (Except Kenosha, Milwaukee, Ozaukee, Racine,  
 Washington, and Waukesha)

|                          | Rates    | Fringes |
|--------------------------|----------|---------|
| Power Equipment Operator |          |         |
| Group 1.....             | \$ 27.67 | 13.70   |
| Group 2.....             | \$ 27.17 | 13.70   |
| Group 3.....             | \$ 26.67 | 13.70   |
| Group 4.....             | \$ 26.14 | 13.70   |
| Group 5.....             | \$ 24.07 | 13.70   |
| Group 6.....             | \$ 23.44 | 13.70   |

#### POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Cranes, Tower Cranes and Derricks with or without  
 attachments with a lifting capacity of over 100 tons;  
 Cranes, Tower Cranes, and Derricks with boom, leads and/or  
 jib lengths 176 ft or longer.

GROUP 2: Backhoes (Excavators) having a manufacturer's rated  
 capacity of 3 cu yd and over; Cranes, Tower Cranes and  
 Derricks with or without attachments with a lifting  
 capacity of 100 tons or less; Cranes, Tower Cranes, and  
 Derricks with boom, leads, and/or jib lengths 175 ft or  
 less; Caisson Rigs; Pile Driver

GROUP 3: Backhoes (Excavators) under 3 cu yd; Travelling  
 Crane (bridge type); Milling Machine; Concrete Paver over  
 27 E; Concrete Spreader and Distributor; Concrete Laser  
 Screed; Concrete Grinder and Planing Machine; Slipform Curb  
 and Gutter Machine; Boring Machine (Directional); Dredge  
 Operator; Skid Rigs

GROUP 4: Hydraulic Backhoe (tractor or truck mounted);  
 Hydraulic Crane, 10 tons or less; Tractor, Bulldozer, or  
 End Loader (over 40 hp); Motor Patrol; Scraper Operator;  
 Bituminous Plant and Paver Operator; Screed-Milling  
 Machine; Roller over 5 tons; Concrete and Grout Pumps;

Hydro Blaster, 10,000 psi and over; Rotary Drill Operator; Percussion Drilling Machine; Air Track Drill with or without integral hammer; Blaster; Boring Machine (vertical or horizontal); Side Boom; Trencher, wheel type or chain type having 8 inch or larger bucket; Rail Leveling Machine (Railroad); Tie Placer; Tie Extractor; Tie Tamper; Stone Leveler; Straddle Carrier; Material Hoists; Stack Hoist; Man Hoists; Mechanic and Welder

GROUP 5: Tractor, Bulldozer, or Endloader (under 40 hp); Tampers -Compactors, riding type; Stump Chipper, large; Roller, Rubber Tire; Backfiller; Trencher, chain type (bucket under 8 inch); Concrete Auto Breaker, large; Concrete Finishing Machine (road type); Concrete Batch Hopper; Concrete Conveyor Systems; Concrete Mixers, 14S or over; Pumps, Screw Type and Gypsum); Hydrohammers, small; Brooms and Sweepers; Lift Slab Machine; Roller under 5 tons; Industrial Locomotives; Fireman (Pile Drivers and Derricks); Pumps (well points); Hoists, automatic; A-Frames and Winch Trucks; Hoists (tuggers); Boats (Tug, Safety, Work Barges and Launches); Assistant Engineer

GROUP 6: Shouldering Machine Operator; Farm or Industrial Tractor mounted equipment; Post Hole Digger; Auger (vertical and horizontal); Skid Steer Loader with or without attachments; Robotic Tool Carrier with or without attachments; Power Pack Vibratory/Ultra Sound Driver and Extractor; Fireman (Asphalt Plants); Screed Operator; Stone Crushers and Screening Plants; Air, Electric, Hydraulic Jacks (Slip Form); Prestress Machines; Air Compressor, 400 CFM or over; Refrigeration Plant/Freeze Machine; Boiler Operators (temporary heat); Forklifts; Welding Machines; Generators, over or under 150 kw; Compressors, under 400 CFM; Heaters, Mechanical; Combination small equipment operator; Winches, small electric; Oiler; Greaser; Conveyor; Elevator Operator

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 \* IRON0008-002 06/01/2004

BROWN, CALUMET, DOOR, FOND DU LAC, KEWAUNEE, MANITOWOC, MARINETTE, OCONTO, OUTAGAMI, SHAWANO, SHEBOYGAN, AND WINNEBAGO COUNTIES:

|                 | Rates    | Fringes |
|-----------------|----------|---------|
| Ironworker..... | \$ 24.56 | 15.23   |

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\* IRON0008-003 06/01/2004

KENOSHA, MILWAUKEE, OZAUCKEE, RACINE, WALWORTH (N.E. 2/3), WASHINGTON, AND WAUKESHA COUNTIES

|                 | Rates    | Fringes |
|-----------------|----------|---------|
| Ironworker..... | \$ 26.37 | 15.23   |

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\* IRON0383-001 06/01/2004

ADAMS, COLUMBIA, CRAWFORD, DANE, DODGE, FLORENCE, FOREST, GRANT, GREENE, (Excluding S.E. tip), GREEN LAKE, IOWA,

JEFFERSON, JUNEAU, LA CROSSE, LAFAYETTE, LANGLADE, MARATHON,  
MARQUETTE, MENOMINEE, MONROE, PORTAGE, RICHLAND, ROCK (Northern  
area, vicinity of Edgerton and Milton), SAUK, VERNON, WAUPACA,  
WAUSHARA, AND WOOD COUNTIES

|                           | Rates    | Fringes |
|---------------------------|----------|---------|
| Ironworker.....           | \$ 26.05 | 13.24   |
| -----                     |          |         |
| * IRON0498-005 06/01/2004 |          |         |

GREEN (S.E. 1/3), ROCK (South of Edgerton and Milton), and  
WALWORTH (S.W. 2/3) COUNTIES:

|                           | Rates    | Fringes |
|---------------------------|----------|---------|
| Ironworker.....           | \$ 29.45 | 20.425  |
| -----                     |          |         |
| * IRON0512-008 05/01/2004 |          |         |

BARRON, BUFFALO, CHIPPEWA, CLARK, DUNN, EAU CLAIRE, JACKSON,  
PEPIN, PIERCE, POLK, RUSK, ST CROIX, TAYLOR, AND TREMPLEAU  
COUNTIES

|                           | Rates    | Fringes |
|---------------------------|----------|---------|
| Ironworker.....           | \$ 29.80 | 15.52   |
| -----                     |          |         |
| * IRON0563-004 05/01/2004 |          |         |

ASHLAND, BAYFIELD, BURNETT, DOUGLAS, IRON, LINCOLN, ONEIDA,  
PRICE, SAWYER, VILAS AND WASHBURN COUNTIES

|                           | Rates    | Fringes |
|---------------------------|----------|---------|
| Ironworker.....           | \$ 24.65 | 15.31   |
| -----                     |          |         |
| * LABO0113-002 06/01/2004 |          |         |

MILWAUKEE AND WAUKESHA COUNTIES

|              | Rates    | Fringes |
|--------------|----------|---------|
| Laborers:    |          |         |
| Group 1..... | \$ 21.12 | 10.57   |
| Group 2..... | \$ 21.27 | 10.57   |
| Group 3..... | \$ 21.47 | 10.57   |
| Group 4..... | \$ 21.62 | 10.57   |
| Group 5..... | \$ 21.77 | 10.57   |
| Group 6..... | \$ 17.61 | 10.57   |

#### LABORERS CLASSIFICATIONS

GROUP 1: General Laborer; Tree Trimmer; Conduit Layer;  
Demolition and Wrecking Laborer; Guard Rail, Fence, and  
Bridge Builder; Landscaper; Multiplate Culvert Assembler;  
Stone Handler; Bituminous Worker (Shoveler, Loader, and  
Utility Man); Batch Truck Dumper or Cement Handler;  
Bituminous Worker (Dumper, Ironer, Smoother, and Tamper);  
Concrete Handler

GROUP 2: Air Tool Operator; Joint Sawyer and Filler  
(Pavement); Vibrator or Tamper Operator (Mechanical Hand  
Operated); Chain Saw Operator; Demolition Burning Torch  
Laborer

GROUP 3: Bituminous Worker (Raker and Luteman); Formsetter  
(Curb, Sidewalk, and Pavement); Strike Off Man

GROUP 4: Line and Grade Specialist

GROUP 5: Blaster and Powderman

GROUP 6: Flagperson; traffic control person

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\* LABO0113-003 06/01/2004

#### OZAUKEE AND WASHINGTON COUNTIES

|              | Rates    | Fringes |
|--------------|----------|---------|
| Laborers:    |          |         |
| Group 1..... | \$ 20.37 | 10.57   |
| Group 2..... | \$ 20.47 | 10.57   |
| Group 3..... | \$ 20.52 | 10.57   |
| Group 4..... | \$ 20.72 | 10.57   |
| Group 5..... | \$ 20.57 | 10.57   |
| Group 6..... | \$ 17.46 | 10.57   |

#### LABORERS CLASSIFICATIONS

GROUP 1: General Laborer; Tree Trimmer; Conduit Layer;  
Demolition and Wrecking Laborer; Guard Rail, Fence, and  
Bridge Builder; Landscaper; Multiplate Culvert Assembler;  
Stone Handler; Bituminous Worker (Shoveler, Loader, and  
Utility Man); Batch Truck Dumper or Cement Handler;  
Bituminous Worker (Dumper, Ironer, Smoother, and Tamper);  
Concrete Handler

GROUP 2: Air Tool Operator; Joint Sawyer and Filler  
(Pavement); Vibrator or Tamper Operator (Mechanical Hand  
Operated);

GROUP 3: Bituminous Worker (Raker and Luteman); Formsetter  
(Curb, Sidewalk, and Pavement); Strike Off Man

GROUP 4: Line and Grade Specialist

GROUP 5: Blaster; powderman

GROUP 6: Flagperson and Traffic Control Person

-----  
\* LABO0140-002 06/01/2004

ADAMS, ASHLAND, BARRON, BAYFIELD, BROWN, BUFFALO, BURNETT,  
CALUMET, CHIPPEWA, CLARK, COLUMBIA, CRAWFORD, DODGE, DOOR,  
DOUGLAS, DUNN, EAU CLAIRE, FLORENCE, FOND DU LAC, FOREST,  
GRANT, GREEN, GREEN LAKE, IRON, JACKSON, JUNEAU, IOWA,  
JEFFERSON, KEWAUNEE, LA CROSSE, LAFAYETTE, LANGLADE, LINCOLN,



MANITOWOC, MARATHON, MARINETTE, MARQUETTE, MENOMINEE, MONROE,  
 OCONTO, ONEIDA, OUTAGAMIE, PEPIN, PIERCE, POLK, PORTAGE, PRICE,  
 RICHLAND, ROCK, RUSK, SAUK, SAWYER, SHAWANO, SHEBOYGAN, ST.  
 CROIX, TAYLOR, TREMPLEAU, VERNON, VILLAS, WALWORTH, WASHBURN,  
 WAUPACA, WAUSHARA, WINNEBAGO, AND WOOD COUNTIES

|              | Rates    | Fringes |
|--------------|----------|---------|
| Laborers:    |          |         |
| Group 1..... | \$ 20.70 | 9.17    |
| Group 2..... | \$ 20.80 | 9.17    |
| Group 3..... | \$ 20.85 | 9.17    |
| Group 4..... | \$ 21.05 | 9.17    |
| Group 5..... | \$ 20.90 | 9.17    |
| Group 6..... | \$ 17.33 | 9.17    |

#### LABORERS CLASSIFICATIONS

GROUP 1: General Laborer; Tree Trimmer; Conduit Layer;  
 Demolition and Wrecking Laborer; Guard Rail, Fence, and  
 Bridge Builder; Landscaper; Multiplate Culvert Assembler;  
 Stone Handler; Bituminous Worker (Shoveler, Loader, and  
 Utility Man); Batch Truck Dumper or Cement Handler;  
 Bituminous Worker (Dumper, Ironer, Smoother and Tamper);  
 Concrete Handler

GROUP 2: Air Tool Operator; Joint Sawyer and Filler  
 (Pavement); Vibrator or Tamper Operator (Mechanical Hand  
 Operated)

GROUP 3: Bituminous Worker (Raker and Luteman); Formsetter  
 (Curb, Sidewalk and Pavement); Strike Off Man

GROUP 4: Line and Grade Specialist

GROUP 5: Blaster; powderman

GROUP 6: Flagperson; Traffic Control

-----  
 \* LABO0237-002 06/01/2004

#### KENOSHA AND RACINE COUNTIES

|              | Rates    | Fringes |
|--------------|----------|---------|
| Laborers:    |          |         |
| Group 1..... | \$ 18.98 | 11.77   |
| Group 2..... | \$ 19.13 | 11.77   |
| Group 3..... | \$ 19.33 | 11.77   |
| Group 4..... | \$ 19.30 | 11.77   |
| Group 5..... | \$ 19.63 | 11.77   |
| Group 6..... | \$ 16.12 | 11.77   |

#### LABORERS CLASSIFICATIONS:

GROUP 1: General laborer; Tree Trimmer; Conduit Layer;  
 Demolition and Wrecking Laborer; Guard Rail, Fence, and  
 Bridge Builder; Landscaper; Multiplate Culvert Assembler;  
 Stone Handler; Bituminous Worker (Shoveler, Loader, and  
 Utility Man); Batch Truck Dumper or Cement Handler;

Bituminous worker (Dumper, Ironer, Smoother, and Tamper);  
Concrete Handler

GROUP 2: Air Tool Operator; Joint Sawyer and Filler  
(Pavement); Vibrator or Tamper Operator (Mechanical Hand  
Operated); Chain Saw Operator; Demolition Burning Torch  
Laborer

GROUP 3: Bituminous Worker (Raker and Luteman); Formsetter  
(Curb, Sidewalk, and Pavement); Strike Off Man

GROUP 4: Line and Grade Specialist

GROUP 5: Blaster and Powderman

GROUP 6: Flagman; traffic control person

-----  
\* LAB00464-003 06/01/2004

DANE COUNTY

|              | Rates    | Fringes |
|--------------|----------|---------|
| Laborers:    |          |         |
| Group 1..... | \$ 20.98 | 9.17    |
| Group 2..... | \$ 21.08 | 9.17    |
| Group 3..... | \$ 21.13 | 9.17    |
| Group 4..... | \$ 21.33 | 9.17    |
| Group 5..... | \$ 21.18 | 9.17    |
| Group 6..... | \$ 17.33 | 9.17    |

LABORERS CLASSIFICATIONS:

GROUP 1: General Laborer; Tree Trimmer; Conduit Layer;  
Demolition and Wrecking Laborer; Guard Rail, Fence, and  
Bridge Builder; Landscaper; Multiplate Culvert Assembler;  
Stone Handler; Bituminous Worker (Shoveler, Loader, and  
Utility Man); Batch Truck Dumper or Cement Handler;  
Bituminous Worker (Dumper, Ironer, Smoother, and Tamper);  
Concrete Handler

GROUP 2: Air Tool Operator; Joint Sawyer and Filler  
(Pavement); Vibrator or Tamper Operator (Mechanical Hand  
Operated); Chain Saw Operator; Demolition Burning Torch  
Laborer

GROUP 3: Bituminous Worker (Raker and Luteman); Formsetter  
(Curb, Sidewalk, and Pavement); Strike Off Man

GROUP 4: Line and Grade Specialist

GROUP 5: Blaster; Powderman

GROUP 6: Flagperson and Traffic Control Person

-----  
PAIN0106-008 05/01/2001

ASHLAND, BAYFIELD, BURNETT, AND DOUGLAS COUNTIES

| Rates | Fringes |
|-------|---------|
|-------|---------|

Painters:

New:

|                             |          |      |
|-----------------------------|----------|------|
| Brush, Roller.....          | \$ 22.73 | 7.73 |
| Spray, Sandblast, Steel.... | \$ 23.33 | 7.73 |

Repaint:

|                             |          |      |
|-----------------------------|----------|------|
| Brush, Roller.....          | \$ 21.23 | 7.73 |
| Spray, Sandblast, Steel.... | \$ 21.83 | 7.73 |

-----  
PAIN0108-002 06/01/2002

RACINE COUNTY

|  | Rates | Fringes |
|--|-------|---------|
|--|-------|---------|

Painters:

|                        |          |      |
|------------------------|----------|------|
| Brush, Roller.....     | \$ 22.05 | 8.25 |
| Spray & Sandblast..... | \$ 23.05 | 8.25 |

-----  
PAIN0259-002 06/01/2004

BARRON, CHIPPEWA, DUNN, EAU CLAIRE, PEPIN, PIERCE, POLK, RUSK,  
SAWYER, ST. CROIX, AND WASHBURN COUNTIES

|  | Rates | Fringes |
|--|-------|---------|
|--|-------|---------|

|                |          |      |
|----------------|----------|------|
| Painters:..... | \$ 21.76 | 9.20 |
|----------------|----------|------|

-----  
PAIN0259-004 06/01/2004

BUFFALO, CRAWFORD, JACKSON, LA CROSSE, MONROE, TREMPLEAU, AND  
VERNON COUNTIES

|  | Rates | Fringes |
|--|-------|---------|
|--|-------|---------|

|              |          |      |
|--------------|----------|------|
| Painter..... | \$ 16.58 | 6.95 |
|--------------|----------|------|

-----  
\* PAIN0781-002 06/01/2004

JEFFERSON, MILWAUKEE, OZAUKEE, WASHINGTON, AND WAUKESHA COUNTIES

|  | Rates | Fringes |
|--|-------|---------|
|--|-------|---------|

Painters:

|                        |          |       |
|------------------------|----------|-------|
| Bridge.....            | \$ 24.64 | 10.97 |
| Brush.....             | \$ 24.29 | 10.97 |
| Spray & Sandblast..... | \$ 25.04 | 10.97 |

-----  
\* PAIN0802-002 06/01/2004

COLUMBIA, DANE, DODGE, GRANT, GREEN, IOWA, LAFAYETTE, RICHLAND,  
ROCK, AND SAUK COUNTIES

|  | Rates | Fringes |
|--|-------|---------|
|--|-------|---------|

Painters:

|                             |          |      |
|-----------------------------|----------|------|
| Brush.....                  | \$ 22.65 | 9.00 |
| Structural Steel, Spray.... | \$ 23.65 | 9.00 |

-----  
\* PAIN0802-003 06/01/2004

ADAMS, BROWN, CALUMET, CLARK, DOOR, FOND DU LAC, FOREST, GREEN  
LAKE, IRON, JUNEAU, KEWAUNEE, LANGLADE, MANITOWOC, MARATHON,  
MARINETTE, MARQUETTE, MENOMINEE, OCONTO, ONEIDA, OUTAGAMIE,  
PORTAGE, PRICE, SHAWANO, SHEBOYGAN, TAYLOR, VILAS, WAUSHARA,  
WAUPACA, WINNEBAGO, AND WOOD COUNTIES

|                | Rates    | Fringes |
|----------------|----------|---------|
| Painters:..... | \$ 19.32 | 6.02    |

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\* PAIN0802-006 06/01/2004

ADAMS, CLARK, FOREST, IRON, JUNEAU, LANGLADE, LINCOLN,  
MARATHON, MENOMINEE, ONEIDA, PORTAGE, PRICE, TAYLOR, WOOD, AND  
VILAS COUNTIES

|                | Rates    | Fringes |
|----------------|----------|---------|
| Painters:..... | \$ 19.32 | 6.02    |

---

\* PAIN0934-001 06/01/2002

KENOSHA AND WALWORTH COUNTIES

|                       | Rates    | Fringes |
|-----------------------|----------|---------|
| Painters:             |          |         |
| Brush.....            | \$ 22.98 | 7.25    |
| Spray.....            | \$ 23.98 | 7.25    |
| Structural Steel..... | \$ 23.13 | 7.25    |

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\* PAIN1011-002 06/01/2001

FLORENCE COUNTY

|                | Rates    | Fringes |
|----------------|----------|---------|
| Painters:..... | \$ 19.40 | 3.95    |

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\* PLAS0599-010 06/01/2004

|              | Rates    | Fringes |
|--------------|----------|---------|
| Cement Mason |          |         |
| Area 1.....  | \$ 25.25 | 10.95   |
| Area 2.....  | \$ 24.20 | 10.45   |
| Area 3.....  | \$ 23.05 | 11.95   |
| Area 4.....  | \$ 25.47 | 9.68    |
| Area 5.....  | \$ 24.25 | 10.90   |
| Area 6.....  | \$ 22.10 | 13.05   |

AREA DESCRIPTIONS

AREA 1: BAYFIELD, DOUGLAS, PRICE, SAYER, AND WASHBURN  
COUNTIES

AREA 2: ADAMS, ASHLAND, BARRON, BROWN, BURNETT, CALUMET,  
CHIPPEWA, CLARK, COLUMBIA, DODGE, DOOR, DUNN, FLORENCE,  
FOND DU LAC, FOREST, GREEN LAKE, IRON, JEFFERSON, KEWAUNEE,

LANGLADE, LINCOLN, MANITOWOC, MARATHON, MARINETTE,  
MARQUETTE, MENOMINEE, OCONTO, ONEIDA, OUTAGAMIE, POLK,  
PORTAGE, RUSK, ST CROIX, SAUK, SHAWANO, SHEBOYGAN, TAYLOR,  
VILAS, WALWORTH, WAUPACA, WAUSHARA, WINNEBAGO, AND WOOD  
COUNTIES

AREA 3: BUFFALO, CRAWFORD, EAU CLAIRE, JACKSON, JUNEAU, LA  
CROSSE MONROE, PEPIN, PIERCE, RICHLAND, TREMPLEAU, AND  
VERNON COUNTIES

AREA 4: MILWAUKEE, OZAUKEE, WASHINGTON, AND WAUKESHA COUNTIES

AREA 5: DANE, GRANT, GREEN, IOWA, LAFAYETTE, AND ROCK  
COUNTIES

AREA 6: KENOSHA AND RACINE COUNTIES

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\* PLUM0011-003 05/01/2004

ASHLAND, BAYFIELD, BURNETT, DOUGLAS, IRON, SAWYER, AND WASHBURN  
COUNTIES

|              | Rates    | Fringes |
|--------------|----------|---------|
| Plumber..... | \$ 29.61 | 11.14   |

-----  
\* PLUM0075-002 06/01/2004

MILWAUKEE, OZAUKEE, WASHINGTON, AND WAUKESHA COUNTIES

|              | Rates    | Fringes |
|--------------|----------|---------|
| Plumber..... | \$ 29.80 | 9.99    |

-----  
\* PLUM0075-004 06/01/2004

DODGE (Watertown), GREEN, JEFFERSON, LAFAYETTE, AND ROCK  
COUNTIES

|                         | Rates    | Fringes |
|-------------------------|----------|---------|
| Plumber/Pipefitter..... | \$ 30.05 | 9.99    |

-----  
\* PLUM0075-009 06/01/2002

COLUMBIA, DANE, IOWA, MARQUETTE, RICHLAND AND SAUK COUNTIES

|              | Rates    | Fringes |
|--------------|----------|---------|
| Plumber..... | \$ 30.25 | 9.29    |

-----  
\* PLUM0118-002 06/01/2003

KENOSHA, RACINE, AND WALWORTH COUNTIES

|                              | Rates    | Fringes |
|------------------------------|----------|---------|
| Plumber and Steamfitter..... | \$ 27.66 | 12.09   |

-----  
\* PLUM0400-003 06/01/2004

ADAMS,BROWN, CALUMET, DODGE (except Watertown), DOOR, FOND DU  
LAC, GREEN LAKE,KEWAUNEE, MANITOWOC, MARINETTE (except  
Niagara), MENOMINEE, OCONTO, OUTAGAMIE, SHAWANO, SHEBOYGAN,  
WAUPACA, WAUSHARA, AND WINNEBAGO COUNTIES

|                         | Rates    | Fringes |
|-------------------------|----------|---------|
| Plumber/Pipefitter..... | \$ 27.72 | 10.52   |

---

\* PLUM0434-002 06/01/2002

BARON, BUFFALO, CHIPPEWA, CLARK, CRAWFORD, DUNN, EAU CLAIRE,  
FLORENCE, FOREST, GRANT, JACKSON, JUNEAU, LA CROSSE, LANGLADE,  
LINCOLN, MARATHON, MONROE, ONEIDA, PEPIN, PIERCE, POLK,  
PORTAGE, PRICE, RUSK, ST. CROIX, TAYLOR, TREMPPEALEAU, VERNON,  
VILAS, AND WOOD COUNTIES

|                 | Rates    | Fringes |
|-----------------|----------|---------|
| Pipefitter..... | \$ 25.15 | 9.72    |

---

\* PLUM0506-007 06/01/2003

MARINETTE COUNTY (Niagara only)

|                              | Rates    | Fringes |
|------------------------------|----------|---------|
| Plumber/Pipefitter           |          |         |
| (1) Jobs where plumbing      |          |         |
| bid is \$50,000 or less..... | \$ 20.56 | 12.05   |
| (2) All other work.....      | \$ 25.71 | 12.05   |

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\* TEAM0039-002 05/01/2004

|                          | Rates    | Fringes |
|--------------------------|----------|---------|
| Truck drivers:           |          |         |
| 1 & 2 Axle Trucks.....   | \$ 19.45 | 12.01   |
| 2 Axle Trucks.....       | \$ 19.17 | 10.69   |
| 3 or more axles; Euclids |          |         |
| or Dumptor, Articulated  |          |         |
| Truck, Mechanic.....     | \$ 19.60 | 12.01   |

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SELF-PROPELLED HOPPER DREDGE:

|             |         |          |
|-------------|---------|----------|
| Drag Tender | \$ 8.78 | \$4.23+A |
|-------------|---------|----------|

FOOTNOTE:

A. Paid Holidays: New years Day, Washington's Birthday,  
Memorial Day, Independence Day, Labor Day, Paul Hall's Birthday  
(August 20), Veteran,s Day, Thanksgiving Day, and Christmas Day

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|              |         |        |
|--------------|---------|--------|
| WELL DRILLER | \$16.52 | \$3.70 |
|--------------|---------|--------|

---

WELDERS - Receive rate prescribed for craft performing

operation to which welding is incidental.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

In the listing above, the "SU" designation means that rates listed under the identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

#### WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- \* an existing published wage determination
- \* a survey underlying a wage determination
- \* a Wage and Hour Division letter setting forth a position on a wage determination matter
- \* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations

Wage and Hour Division

U.S. Department of Labor

200 Constitution Avenue, N.W.

Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator

U.S. Department of Labor

200 Constitution Avenue, N.W.

Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board

U.S. Department of Labor

200 Constitution Avenue, N.W.

Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION



SECTION TABLE OF CONTENTS

DIVISION 02 - SITE WORK

SECTION 02139

SITE PREPARATION

PART 1 GENERAL

1.1 PAYMENT

1.2 SUBMITTALS

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 Removal of Obstructions

3.1.1 Restrictions

3.2 DISPOSAL

3.3 QUALITY CONTROL

-- End of Section Table of Contents --

## SECTION 02139

## SITE PREPARATION

## PART 1 GENERAL

## 1.1 PAYMENT

All acceptably completed work required under this Section of the specifications will be paid for at the contract lump-sum price for the payment item, "Site Preparation."

## 1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Data

Construction Equipment; FIO.

Prior to starting work, a list of all equipment, tools and machines, including their sizes, capacities and operating speeds, to be used in the performance of the work, shall be submitted. All the plant shall be maintained in satisfactory working condition at all times.

Work Plan; G-AOF.

At least ten (10) calendar days prior to proceeding with the work, submit a work plan for moving the existing electrical conduit out of the working limits and any other necessary preparations.

## PART 2 PRODUCTS (NOT APPLICABLE)

N/A

## PART 3 EXECUTION

## 3.1 Removal of Obstructions

The existing items which are to be removed to allow for the required construction work shall be as indicated on the drawings and specified herein. The materials obtained from clearing operations shall be disposed of as specified in Paragraph "DISPOSAL." Clearing shall consist of moving the existing electrical conduit located on top of the wall to a temporary location outside of the working limits; removing and disposing approximately 200 Linear Feet of existing steel handrails; and removing and

disposing of approximately 4 cubic yards of reinforced concrete rail foundation from the top of the wall structure. All work shall be completed using the approved construction equipment, in a workmanlike manner subject to approval by the Contracting Officer via the submittal of a work plan.

#### 3.1.1 Restrictions

Electrical power shall not be interrupted during the relocation of the electrical conduit.

#### 3.2 DISPOSAL

All waste, excess and unsatisfactory materials resulting from work required under this Section shall be removed from the site unless otherwise specified and directed and upon removal shall become the property of the Contractor. All disposal shall conform to the requirements of SECTION 01130 "ENVIRONMENTAL PROTECTION", including any applicable local requirements.

#### 3.3 QUALITY CONTROL

The Contractor shall establish and maintain a quality control system for all operations performed under this Section to assure compliance with contract requirements and maintain records of its quality control for all operations performed, including, but not limited to, the following:

- a. Removal work.
- b. Protecting existing structures and all appurtenances.
- c. Relocating existing conduit.
- d. Disposal.
- e. Observance of safety regulations.

-- End of Section --

SECTION TABLE OF CONTENTS

DIVISION 03 - CONCRETE

SECTION 03200A

CONCRETE REINFORCEMENT

PART 1 GENERAL

- 1.1 REFERENCES
- 1.2 SUBMITTALS
- 1.3 WELDING
- 1.4 DELIVERY AND STORAGE

PART 2 PRODUCTS

- 2.1 WELDED WIRE FABRIC
- 2.2 WIRE TIES
- 2.3 SUPPORTS

PART 3 EXECUTION

- 3.1 WELDED-WIRE FABRIC PLACEMENT

-- End of Section Table of Contents --

## SECTION 03200A

## CONCRETE REINFORCEMENT

## PART 1 GENERAL

## 1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

## AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 185 (1997) Steel Welded Wire Fabric, Plain,  
for Concrete Reinforcement

ASTM A 884/A 884M (1996ael) Epoxy-Coated Steel Wire and  
Welded Wire Fabric for Reinforcement

## AMERICAN WELDING SOCIETY (AWS)

AWS D1.4 (1998) Structural Welding Code -  
Reinforcing Steel

## CONCRETE REINFORCING STEEL INSTITUTE (CRSI)

CRSI 1 MSP (1996) Manual of Standard Practice

## 1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

## SD-02 Shop Drawings

Reinforcement; G-AOF

Detail drawings showing reinforcing steel placement, schedules, sizes, grades, and splicing and bending details. Drawings shall show support details including types, sizes and spacing.

## SD-03 Product Data

Welding

A list of qualified welders names.

## SD-07 Certificates

### Reinforcing Steel; G-AOF

Certified copies of mill reports attesting that the reinforcing steel furnished contains no less than 25 percent recycled scrap steel and meets the requirements specified herein, prior to the installation of reinforcing steel.

#### 1.3 WELDING

Welders shall be qualified in accordance with AWS D1.4. Qualification test shall be performed at the worksite and the Contractor shall notify the Contracting Officer 24 hours prior to conducting tests. Special welding procedures and welders qualified by others may be accepted as permitted by AWS D1.4.

#### 1.4 DELIVERY AND STORAGE

Reinforcement and accessories shall be stored off the ground on platforms, skids, or other supports.

### PART 2 PRODUCTS

#### 2.1 WELDED WIRE FABRIC

Welded wire fabric shall conform to ASTM A 185. When directed by the Contracting Officer for special applications, welded wire fabric shall conform to ASTM A 884/A 884M.

#### 2.2 WIRE TIES

Wire ties shall be 16 gauge or heavier black annealed steel wire.

#### 2.3 SUPPORTS

Bar supports for formed surfaces shall be designed and fabricated in accordance with CRSI 1 MSP and shall be steel or precast concrete blocks. Precast concrete blocks shall have wire ties and shall be not less than 4 inches square when supporting reinforcement on ground. Precast concrete block shall have compressive strength equal to that of the surrounding concrete. Where concrete formed surfaces will be exposed to weather or where surfaces are to be painted, steel supports within 1/2 inch of concrete surface shall be galvanized, plastic protected or of stainless steel. Concrete supports used in concrete exposed to view shall have the same color and texture as the finish surface. For slabs on grade, supports shall be precast concrete blocks, plastic coated steel fabricated with bearing plates, or specifically designed wire-fabric supports fabricated of plastic.

### PART 3 EXECUTION

#### 3.1 WELDED-WIRE FABRIC PLACEMENT

Welded-wire fabric shall be placed in slabs as indicated. Fabric placed in slabs on grade shall be continuous between expansion, construction, and contraction joints. Fabric placement at joints shall be as indicated. Lap splices shall be made in such a way that the overlapped area equals the distance between the outermost crosswires plus 2 inches. Laps shall be staggered to avoid continuous laps in either direction. Fabric shall be

wired or clipped together at laps at intervals not to exceed 4 feet.  
Fabric shall be positioned by the use of supports.

-- End of Section --

## SECTION TABLE OF CONTENTS

## DIVISION 03 - CONCRETE

## SECTION 03230

## STEEL STRESSING BARS AND ACCESSORIES

## PART 1 GENERAL

- 1.1 REFERENCES
- 1.2 SUBMITTALS
- 1.3 CERTIFICATION OF STRESSING TECHNICIANS
- 1.4 DELIVERY, STORAGE AND HANDLING OF MATERIALS

## PART 2 PRODUCTS

- 2.1 MATERIALS
  - 2.1.1 Stressing Bars
    - 2.1.1.1 High-Strength Steel Bars
  - 2.1.2 Accessories
    - 2.1.2.1 Anchorages and Couplers
    - 2.1.2.2 Grout
- 2.2 TESTS, INSPECTIONS, AND VERIFICATIONS

## PART 3 EXECUTION

- 3.1 INSTALLATION
  - 3.1.1 Stressing Method and Equipment
  - 3.1.2 Installation Drawings
  - 3.1.3 Anchorages
  - 3.1.4 Stressing bars
  - 3.1.5 Tensioning Tendons
  - 3.1.6 Grouting Tensioned Bars
  - 3.1.7 Accuracy of Stress and Elongation Measurement
    - 3.1.7.1 Stress Measurement
    - 3.1.7.2 Elongation Measurement
- 3.2 INSPECTION
- 3.3 MATERIALS DISPOSITION RECORDS

-- End of Section Table of Contents --



## SECTION 03230

## STEEL STRESSING BARS AND ACCESSORIES

## PART 1 GENERAL

## 1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

## ACI INTERNATIONAL (ACI)

|              |  |
|--------------|--|
| ACI 315      | (1999) Details and Detailing of Concrete Reinforcement                   |
| ACI 318/318R | (1999) Building Code Requirements for Structural Concrete and Commentary |

## AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

|                   |   |
|-------------------|---|
| ASTM A 722/A 722M | (1998) Uncoated High-Strength Steel Bar for Prestressing Concrete                               |
| ASTM C 109/C 109M | (1999) Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or (50-mm) Cube Specimens) |
| ASTM C 150        | (1999a) Portland Cement   |
| ASTM C 939        | (1997) Flow of Grout for Preplaced-Aggregate Concrete (Flow Cone Method)                        |

## 1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

## SD-02 Shop Drawings

Installation Drawings; G-AOF

Installation drawings for bars and accessories shall be submitted and approved prior to commencing the work.

## SD-03 Product Data

Stressing Method and Equipment; G-AOF

Descriptions of proposed stressing method and equipment shall be submitted and approved prior to the start of stressing operations.

#### Materials Disposition Records;

Records which identify the incorporation of approved materials into the work shall be submitted before completion of the contract.

#### Stressing Operations Records;

Complete records of the stressing operations shall be submitted before completion of the contract.

### SD-06 Test Reports

#### Stressing Bars and Accessories; G-AOF

Certified materials test reports shall be submitted for all required materials tests, note the specific standards followed in the performance of tests, show that materials comply with the applicable specifications, be submitted for each material shipment and be identified with specific lots prior to use of materials in the work.

### SD-07 Certificates

#### Certification of Stressing Technicians; G-AOF

Certificates for stressing technicians shall be submitted prior to start of stressing operations.

## 1.3 CERTIFICATION OF STRESSING TECHNICIANS

Submitted certificates for stressing technicians who will use the proposed system in the work shall certify by name that these technicians are thoroughly trained and skilled in the use of the system.

## 1.4 DELIVERY, STORAGE AND HANDLING OF MATERIALS

Materials shall be suitably wrapped, packaged or covered at the factory to prevent being affected by dirt, water and rust. Materials shall be protected against abrasion or damage during shipment and handling. Materials stored at the site shall be placed above ground on elevated, covered platforms.

## PART 2 PRODUCTS

### 2.1 MATERIALS

Stressing bars and accessories shall conform to the requirements of ACI 318/318R except as specified.

#### 2.1.1 Stressing Bars

Stressing bars shall be clean and free of loose rust, scale and pitting. Unbonded bars shall be permanently protected from corrosion with an approved applied coating.

#### 2.1.1.1 High-Strength Steel Bars

High-strength steel bars shall conform to ASTM A 722/A 722M, Type I or II, meeting all supplementary requirements.

#### 2.1.2 Accessories

##### 2.1.2.1 Anchorages and Couplers

Anchorages and couplers shall be metal of proven corrosion resistance and compatible with the stressing bars, capable of fully developing the minimum guaranteed ultimate strength of tendons without excessive slip and approved. Anchorages shall be the button-head, wedge, nut and thread, grip nut, thread-bar, threaded plate or other approved type and shall be provided with bearing plates bars, rings, bells or other positive-attaching anchor fittings. Couplers shall be provided with housings long enough to permit the necessary movements and fittings which allow complete grouting of all components.

##### 2.1.2.2 Grout

Grout for grouting post-tensioned tendons shall consist of a mixture of Portland cement, and potable water of which final proportions shall be based on test results of sample mixtures. Cement shall conform to ASTM C 150, Type I or II. The water content shall be the minimum necessary for proper placement but the water-cement ratio shall not exceed 0.45 by weight. The pumpability of grout shall be determined in accordance with ASTM C 939. The efflux time of a grout sample immediately after mixing shall not be less than 11 seconds. The minimum 7-day compressive strength of 2-inch grout cubes, molded, cured and tested in accordance with ASTM C 109/C 109M shall be 3,500 psi.

#### 2.2 TESTS, INSPECTIONS, AND VERIFICATIONS

The Contractor shall have required material tests performed on stressing bars and accessories by an approved laboratory to demonstrate that the materials are in conformance with the specifications. These tests shall be at the Contractor's expense.

### PART 3 EXECUTION

#### 3.1 INSTALLATION

Stressing bars and accessories shall be installed or placed as specified and as shown on contract and approved installation drawings. Installation details of stressing tendons and accessories not specified or shown shall be in accordance with ACI 315 or ACI 318/318R. Welding shall not be performed near or adjacent to stressing bars. Stressing bars shall not be installed until all welding has been completed on supports or any part which might be in contact with the bars. Installation also shall not occur until the voids in the structure have sufficiently been filled by grout, and the grout has become fully hardened. All anchors are required to be tensioned after the grout holes has set in the bond zone (bottom 3 feet) and prior to backfilling the remaining grout holes.

##### 3.1.1 Stressing Method and Equipment

Descriptions of the proposed stressing methods and equipment indicating the manufacturer of all stressing equipment, including tensioning jacks, stress

measurement gages, dynamometers and load cells or other devices for measuring stressing loads, shall be provided by the contractor. Descriptions shall include certified calibration records for each set of jacking equipment and testing curves for stress measurement gages which show that the gages have been calibrated for the jacks for which they are to be used.

### 3.1.2 Installation Drawings

Detailed installation drawings for stressing bars and accessories showing the type and size of stressing bars and anchorages, erection methods, sequence of stressing and stressing calculations shall be provided by the Contractor.

### 3.1.3 Anchorages

Anchorages must be set in a plane normal to the axis of the bars such that uniform bearing on the concrete is assured. Positive connecting anchorages rather than gripping types shall be used for anchoring embedded ends of bars. Anchorages and anchor fittings shall be permanently protected against corrosion.

### 3.1.4 Stressing bars

Protective coverings and wrappings shall be removed and each stressing bar shall be closely inspected to see that nicks, scoring, pits or other damage does not exist and high strength steel bars shall be closely inspected to assure that they are not bent and that threaded ends are in satisfactory condition immediately prior to installation. Bars shall be shop or field assembled as required and positively attached to anchorages. Steel bars may be joined by couplers where shown or approved, provided they are capable of developing the guaranteed minimum ultimate strength of the bars.

### 3.1.5 Tensioning Tendons

Tensioning of stressing bars shall be as specified and shown. Bars must be grouted and fully bonded to subsurface beneath structure according to the depths shown in plans before tensioning. The stress induced in the bars by any method of tensioning shall be determined independently by both (1) measurement of bar elongation and (2) direct measurement of force using a pressure gauge or load cell. If the results of these two measurements do not check each other and the theoretical values within 5 percent, the operation shall be carefully checked and the source of error determined and corrected before proceeding further. Tests shall indicate a tension of 4000 lbs developed in each bar. Bars shall be stressed to the total tension indicated on the drawings using hydraulic or mechanical equipment with gauges or dynamometers graduated and calibrated to accurately determine the load applied. Safety measures shall be taken by the Contractor to prevent accidental injury caused by failure of a stressing tendon or tendon component. The exposed ends of stressing tendons and anchorages shall be protected from damage during stressing operations to prevent failure.

### 3.1.6 Grouting Tensioned Bars

Grouting each bar between its bonded zone to the bedrock and the top of the structure shall be performed within 5 days after completion of the tensioning operation. Grouting shall not be performed if air temperature below 45 degrees F is anticipated within 48 hours after grouting unless an

approved method of temperature control is used. The grout shall be mixed in a mechanical mixer of a type that will produce uniformly and thoroughly mixed grout. First water shall be placed in the mixer followed by cement and admixture. Grout shall be continuously agitated until it is pumped. Grout that has begun to set shall be discarded. Just before grouting, the hole shall be flushed with clean water and then blown clear by compressed air to removed excess water. Grout shall be applied continuously under moderate pressure until all entrapped air is forced out as indicated by a uniform flow of grout from the discharge vent. The discharge vent shall then be closed and the pressure raised to 50 psi minimum and held for at least 1 minute. The injection point shall then be closed by an approved means to prevent any loss of grout.

### 3.1.7 Accuracy of Stress and Elongation Measurement

#### 3.1.7.1 Stress Measurement

Hydraulic gauges, dynamometers, load cells or other devices for measuring stressing load shall have an accuracy of reading within two percent for stress measurement. Gauges are required to have been calibrated for the jacks for which they are used within a period not exceeding 12 months. Recalibration shall be performed at any time that a gaging system shows indication of erratic results in the opinion of the Contracting Officer. Gauges shall indicate loads directly in pounds or be accompanied by a chart which converts dial readings into pounds.

#### 3.1.7.2 Elongation Measurement

After the initial force has been applied to a bar, reference points for measuring elongation due to additional tensioning forces shall be established. They shall be located according to the method of tensioning and type of equipment. The system used shall be capable of measuring the true elongation plus or minus 1/16-inch.

### 3.2 INSPECTION

The Contractor's facilities shall be open for inspection by the Contracting Officer at any time.

### 3.3 MATERIALS DISPOSITION RECORDS

Accurate materials disposition records identifying all materials incorporated into the work and showing the disposition of specific lots of approved tested materials shall be compiled by the Contractor.

-- End of Section --

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## SECTION 03307A

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## SECTION 03307A

## CONCRETE FOR MINOR STRUCTURES

## PART 1 GENERAL

## 1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

## ACI INTERNATIONAL (ACI)

|              |  |
|--------------|--|
| ACI 308      | (1992; R 1997) Standard Practice for Curing Concrete                     |
| ACI 318/318R | (1999) Building Code Requirements for Structural Concrete and Commentary |
| ACI 347R     | (1994; R 1999) Guide to Formwork for Concrete                            |

## AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

|                   |   |
|-------------------|---|
| ASTM C 143/C 143M | (2000) Slump of Hydraulic Cement Concrete   |
| ASTM C 150        | (1999a) Portland Cement   |
| ASTM C 171        | (1997a) Sheet Materials for Curing Concrete   |
| ASTM C 172        | (1999) Sampling Freshly Mixed Concrete  |
| ASTM C 231        | (1997e1) Air Content of Freshly Mixed Concrete by the Pressure Method                               |
| ASTM C 260        | (2000) Air-Entraining Admixtures for Concrete   |
| ASTM C 309        | (1998a) Liquid Membrane-Forming Compounds for Curing Concrete                                       |
| ASTM C 31/C 31M   | (2000e1) Making and Curing Concrete Test Specimens in the Field                                     |
| ASTM C 33         | (1999ae1) Concrete Aggregates   |
| ASTM C 39/C 39M   | (2001) Compressive Strength of Cylindrical Concrete Specimens                                       |
| ASTM C 494/C 494M | (1999ae1) Chemical Admixtures for Concrete  |
| ASTM C 618        | (2000) Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Concrete |



|                                      |  |
|--------------------------------------|--|
| ASTM C 685                           | (2000) Concrete Made by Volumetric Batching and Continuous Mixing  |
| ASTM C 94/C 94M                      | (2000e2) Ready-Mixed Concrete                                      |
| ASTM D 75                            | (1987; R 1997) Sampling Aggregates                                 |
| ASTM D 98                            | (1998) Calcium Chloride  |
| U.S. ARMY CORPS OF ENGINEERS (USACE) |  |
| COE CRD-C 400                        | (1963) Requirements for Water for Use in Mixing or Curing Concrete |

## 1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

### SD-03 Product Data

Air-Entraining Admixture; G-AOF  
Curing Materials; G-AOF  
Reinforcing Steel; G-AOF  
Expansion Joint Filler Strips, Premolded; G-AOF  
Joint Sealants - Field Molded Sealants; G-AOF

Manufacturer's literature is available from suppliers which demonstrates compliance with applicable specifications for the above materials.

Batching and Mixing Equipment; G-AOF

Batching and mixing equipment will be accepted on the basis of manufacturer's data which demonstrates compliance with the applicable specifications.

Conveying and Placing Concrete; G-AOF

The methods and equipment for transporting, handling, depositing, and consolidating the concrete shall be submitted prior to the first concrete placement.

Formwork; G-AOF

Formwork design shall be submitted prior to the first concrete placement.

### SD-06 Test Reports

Aggregates; G-AOF

Aggregates will be accepted on the basis of certificates of

compliance and test reports that show the material(s) meets the quality and grading requirements of the specifications under which it is furnished.

#### Concrete Mixture Proportions; G-AOF

Ten days prior to placement of concrete, the contractor shall submit the mixture proportions that will produce concrete of the quality required. Applicable test reports shall be submitted to verify that the concrete mixture proportions selected will produce concrete of the quality specified.

#### SD-07 Certificates

##### Cementitious Materials; G-AOF

Certificates of compliance attesting that the concrete materials meet the requirements of the specifications shall be submitted in accordance with the Special Clause "CERTIFICATES OF COMPLIANCE". Cementitious material will be accepted on the basis of a manufacturer's certificate of compliance, accompanied by mill test reports that the material(s) meet the requirements of the specification under which it is furnished.

##### Aggregates; G-AOF

Aggregates will be accepted on the basis of certificates of compliance and tests reports that show the material(s) meet the quality and grading requirements of the specifications under which it is furnished.

### 1.3 DESIGN AND PERFORMANCE REQUIREMENTS

The Government will maintain the option to sample and test joint sealer, joint filler material, waterstop, aggregates and concrete to determine compliance with the specifications. The Contractor shall provide facilities and labor as may be necessary to assist the Government in procurement of representative test samples. Samples of aggregates will be obtained at the point of batching in accordance with ASTM D 75. Concrete will be sampled in accordance with ASTM C 172. Slump and air content will be determined in accordance with ASTM C 143/C 143M and ASTM C 231, respectively, when cylinders are molded. Compression test specimens will be made, cured, and transported in accordance with ASTM C 31/C 31M. Compression test specimens will be tested in accordance with ASTM C 39/C 39M.

Samples for strength tests will be taken not less than once each shift in which concrete is produced. A minimum of three specimens will be made from each sample; two will be tested at 28 days (90 days if pozzolan is used) for acceptance, and one will be tested at 7 days for information.

#### 1.3.1 Strength

Acceptance test results will be the average strengths of two specimens tested at 28 days (90 days if pozzolan is used). The strength of the concrete will be considered satisfactory so long as the average of three consecutive acceptance test results equal or exceed the specified compressive strength,  $f'_c$ , and no individual acceptance test result falls below  $f'_c$  by more than 500 psi.

#### 1.3.2 Construction Tolerances

A Class "C" finish shall apply to all surfaces except those specified to receive a Class "D" finish. A Class "D" finish shall apply to all surfaces which will be permanently concealed after construction. The surface requirements for the classes of finish required shall be as specified in ACI 347R.

### 1.3.3 Concrete Mixture Proportions

Concrete mixture proportions shall be the responsibility of the Contractor.

Mixture proportions shall include the dry weights of cementitious material(s); the nominal maximum size of the coarse aggregate; the specific gravities, absorptions, and saturated surface-dry weights of fine and coarse aggregates; the quantities, types, and names of admixtures; and quantity of water per cubic yard of concrete. All materials included in the mixture proportions shall be of the same type and from the same source as will be used on the project. Specified compressive strength  $f'_c$  shall be 4,000 psi at 28 days (90 days if pozzolan is used). The maximum nominal size coarse aggregate shall be 1 inch, in accordance with ACI 318/318R, however it shall never exceed any of the following: three-fourths of the minimum cover for reinforcing bars, three-fourths of the minimum clear spacing between reinforcing bars, one-fifth of the narrowest dimension between sides of forms, or one-third of the thickness of the slabs. The air content shall be between 4.5 and 7.5 percent. The slump shall be between 2 and 5 inches. The maximum water cement ratio shall be 0.50.

## PART 2 PRODUCTS

### 2.1 MATERIALS

#### 2.1.1 Cementitious Materials

Cementitious materials shall conform to the appropriate specifications listed:

##### 2.1.1.1 Portland Cement

ASTM C 150, Type II.

##### 2.1.1.2 Pozzolan

Pozzolan shall conform to ASTM C 618, Class C or F, including requirements of Tables 1A and 2A.

##### 2.1.2 Aggregates

Aggregates shall meet the quality and grading requirements of ASTM C 33 Class Designations 4M or better.

##### 2.1.3 Admixtures

Admixtures to be used, when required or approved, shall comply with the appropriate specification listed. Chemical admixtures that have been in storage at the project site for longer than 6 months or that have been subjected to freezing shall be retested at the expense of the contractor at the request of the Contracting Officer and shall be rejected if test results are not satisfactory.

##### 2.1.3.1 Air-Entraining Admixture

Air-entraining admixture shall meet the requirements of ASTM C 260.

#### 2.1.3.2 Accelerating Admixture

Calcium chloride shall meet the requirements of ASTM D 98. Other accelerators shall meet the requirements of ASTM C 494/C 494M, Type C or E.

#### 2.1.3.3 Water-Reducing or Retarding Admixture

Water-reducing or retarding admixture shall meet the requirements of ASTM C 494/C 494M, Type A, B, or D.

#### 2.1.4 Water

Water for mixing and curing shall be fresh, clean, potable, and free from injurious amounts of oil, acid, salt, or alkali, except that unpotable water may be used if it meets the requirements of COE CRD-C 400.

#### 2.1.5 Reinforcing Steel

Reinforcing steel bar shall conform to the requirements of ASTM A 615/A 615M, Grade 60. Welded steel wire fabric shall conform to the requirements of ASTM A 185. Details of reinforcement not shown shall be in accordance with ACI 318M, ACI 318/318R, Chapter 7 and 12.

#### 2.1.6 Expansion Joint Filler Strips, Premolded

Expansion joint filler strips, premolded shall be sponge rubber conforming to ASTM D 1752, Type I.

#### 2.1.7 Joint Sealants - Field Molded Sealants

Joint sealants - field molded sealants shall conform to ASTM C 920, Type M, Grade NS, Class 25, use NT for vertical joints and Type M, Grade P, Class 25, use T for horizontal joints. Bond-breaker material shall be polyethylene tape, coated paper, metal foil, or similar type materials. The backup material shall be compressible, nonshrink, nonreactive with the sealant, and a nonabsorptive material such as extruded butyl or polychloroprene foam rubber. Immediately prior to installation of field-molded sealants, the joints shall be cleaned of all debris and further cleaned using water, material solvents, or other means as recommended by the sealant manufacturer or directed.

#### 2.1.8 Formwork

The design and engineering of the formwork as well as its construction, shall be the responsibility of the Contractor.

#### 2.1.9 Form Coatings

Forms for exposed surfaces shall be coated with a nonstaining form oil, which shall be applied shortly before concrete is placed.

### PART 3 EXECUTION

#### 3.1 PREPARATION

### 3.1.1 General

Construction joints shall be prepared to expose coarse aggregate, and the surface shall be clean, damp, and free of laitance. Ramps and walkways, as necessary, shall be constructed to allow safe and expeditious access for concrete and workmen. Snow, ice, standing or flowing water, loose particles, debris, and foreign matter shall have been removed. Earth foundations shall be satisfactorily compacted. Spare vibrators shall be available. The entire preparation shall be accepted by the Government prior to placing.

### 3.1.2 Embedded Items

Reinforcement shall be secured in place; joints, anchors, and other embedded items shall have been positioned. Internal ties shall be arranged so that when the forms are removed the metal part of the tie will be not less than 2 inches from concrete surfaces permanently exposed to view or exposed to water on the finished structures. Embedded items shall be free of oil and other foreign matters such as loose coatings or rust, paint, and scale. The embedding of wood in concrete will be permitted only when specifically authorized or directed. All equipment needed to place, consolidate, protect, and cure the concrete shall be at the placement site and in good operating condition.

### 3.1.3 Formwork Installation

Forms shall be properly aligned, adequately supported, and mortar-tight. The form surfaces shall be smooth and free from irregularities, dents, sags, or holes when used for permanently exposed faces. All exposed joints and edges shall be chamfered, unless otherwise indicated.

### 3.1.4 Production of Concrete

#### 3.1.4.1 Ready-Mixed Concrete

Ready-mixed concrete shall conform to ASTM C 94/C 94M except as otherwise specified.

#### 3.1.4.2 Concrete Made by Volumetric Batching and Continuous Mixing

Concrete made by volumetric batching and continuous mixing shall conform to ASTM C 685.

#### 3.1.4.3 Batching and Mixing Equipment

The contractor shall have the option of using an on-site batching and mixing facility. The facility shall provide sufficient batching and mixing equipment capacity to prevent cold joints. The method of measuring materials, batching operation, and mixer shall be submitted for review. On-site plant shall conform to the requirements of either ASTM C 94/C 94M or ASTM C 685.

## 3.2 CONVEYING AND PLACING CONCRETE

Conveying and placing concrete shall conform to the following requirements.

### 3.2.1 General

Concrete placement shall not be permitted when weather conditions prevent

proper placement and consolidation without approval. When concrete is mixed and/or transported by a truck mixer, the concrete shall be delivered to the site of the work and discharge shall be completed within 1-1/2 hours or 45 minutes when the placing temperature is 85 degrees F or greater unless a retarding admixture is used. Concrete shall be conveyed from the mixer to the forms as rapidly as practicable by methods which prevent segregation or loss of ingredients. Concrete shall be in place and consolidated within 15 minutes after discharge from the mixer. Concrete shall be deposited as close as possible to its final position in the forms. The placement shall be carried on at such a rate that the formation of cold joints will be prevented.

### 3.2.2 Consolidation

Each layer of concrete shall be consolidated by rodding or spading. External vibrating equipment may be used when authorized.

### 3.2.3 Cold-Weather Requirements

No concrete placement shall be made when the ambient temperature is below 35 degrees F or if the ambient temperature is below 40 degrees F and falling. Suitable covering and other means as approved shall be provided for maintaining the concrete at a temperature of at least 50 degrees F for not less than 72 hours after placing and at a temperature above freezing for the remainder of the curing period. Salt, chemicals, or other foreign materials shall not be mixed with the concrete to prevent freezing. Any concrete damaged by freezing shall be removed and replaced at the expense of the contractor.

### 3.2.4 Hot-Weather Requirements

When the rate of evaporation of surface moisture, as determined by use of Figure 1 of ACI 308, is expected to exceed 0.2 pound per square foot per hour, provisions for windbreaks, shading, fog spraying, or covering with a light-colored material shall be made in advance of placement, and such protective measures shall be taken as quickly as finishing operations will allow.

## 3.3 FORM REMOVAL

Forms shall not be removed before the expiration of 24 hours after concrete placement except where otherwise specifically authorized. Supporting forms and shoring shall not be removed until the concrete has cured for at least 5 days. When conditions on the work are such as to justify the requirement, forms will be required to remain in place for longer periods.

## 3.4 FINISHING

### 3.4.1 General

No finishing or repair will be done when either the concrete or the ambient temperature is below 50 degrees F.

### 3.4.2 Finishing Formed Surfaces

All fins and loose materials shall be removed, and surface defects including tie holes shall be filled. All honeycomb areas and other defects shall be repaired. All unsound concrete shall be removed from areas to be repaired. Surface defects greater than 1/2 inch in diameter and holes left

by removal of tie rods in all surfaces not to receive additional concrete shall be reamed or chipped and filled with dry-pack mortar. The prepared area shall be brush-coated with an approved epoxy resin or latex bonding compound or with a neat cement grout after dampening and filled with mortar or concrete. The cement used in mortar or concrete for repairs to all surfaces permanently exposed to view shall be a blend of portland cement and white cement so that the final color when cured will be the same as adjacent concrete.

#### 3.4.3 Finishing Unformed Surfaces

All unformed surfaces that are not to be covered by additional concrete or backfill shall be float finished to elevations shown, unless otherwise specified. Surfaces to receive additional concrete or backfill shall be brought to the elevations shown and left as a true and regular surface. Exterior surfaces shall be sloped for drainage unless otherwise shown. Joints shall be carefully made with a jointing tool. Unformed surfaces shall be finished to a tolerance of 3/8 inch for a float finish and 5/16 inch for a trowel finish as determined by a 10 foot straightedge placed on surfaces shown on the plans to be level or having a constant slope. Finishing shall not be performed while there is excess moisture or bleeding water on the surface. No water or cement shall be added to the surface during finishing.

##### 3.4.3.1 Broom Finish

A broom finish shall be applied to the new concrete cap. The concrete shall be screeded and floated to required finish plane with no coarse aggregate visible. After surface moisture disappears, the surface shall be broomed or brushed with a broom or fiber bristle brush in a direction transverse to that of the main traffic or as directed.

##### 3.4.3.2 Expansion and Contraction Joints

Expansion and contraction joints shall be made in accordance with the details shown or as otherwise specified. Provide 1/2 inch thick transverse expansion joints where new work abuts an existing concrete. Expansion joints shall be provided at a maximum spacing of 30 feet on center in sidewalks, unless otherwise indicated. Contraction joints shall be provided at a maximum spacing of fifteen (15) linear feet in sidewalks, unless otherwise indicated. Contraction joints shall be cut at a minimum of one and one half (1.5) inches deep with a jointing tool after the surface has been finished.

#### 3.5 CURING AND PROTECTION

Beginning immediately after placement and continuing for at least 7 days, all concrete shall be cured and protected from premature drying, extremes in temperature, rapid temperature change, freezing, mechanical damage, and exposure to rain or flowing water. All materials and equipment needed for adequate curing and protection shall be available and at the site of the placement prior to the start of concrete placement. Preservation of moisture for concrete surfaces not in contact with forms shall be accomplished by one of the following methods:

- a. Continuous sprinkling or ponding.
- b. Application of absorptive mats or fabrics kept continuously wet.

- c. Application of sand kept continuously wet.
- d. Application of impervious sheet material conforming to ASTM C 171.
- e. Application of membrane-forming curing compound conforming to ASTM C 309, Type 1-D, on surfaces permanently exposed to view.

The preservation of moisture for concrete surfaces placed against wooden forms shall be accomplished by keeping the forms continuously wet for 7 days. If forms are removed prior to end of the required curing period, other curing methods shall be used for the balance of the curing period. During the period of protection removal, the temperature of the air in contact with the concrete shall not be allowed to drop more than 25 degrees F within a 24 hour period.

### 3.6 TESTS AND INSPECTIONS

#### 3.6.1 General

The individuals who sample and test concrete as required in this specification shall have demonstrated a knowledge and ability to perform the necessary test procedures equivalent to the ACI minimum guidelines for certification of Concrete Field Testing Technicians, Grade I.

#### 3.6.2 Inspection Details and Frequency of Testing

##### 3.6.2.1 Preparations for Placing

Foundation or construction joints, forms, and embedded items shall be inspected in sufficient time prior to each concrete placement by the Contractor to certify that it is ready to receive concrete.

##### 3.6.2.2 Air Content

Air content shall be checked at least once during each shift that concrete is placed. Samples shall be obtained in accordance with ASTM C 172 and tested in accordance with ASTM C 231.

##### 3.6.2.3 Slump

Slump shall be checked once during each shift that concrete is produced. Samples shall be obtained in accordance with ASTM C 172 and tested in accordance with ASTM C 143/C 143M.

##### 3.6.2.4 Consolidation and Protection

The Contractor shall ensure that the concrete is properly consolidated, finished, protected, and cured.

#### 3.6.3 Action Required

##### 3.6.3.1 Air Content

Whenever a test result is outside the specification limits, the concrete shall not be delivered to the forms and an adjustment shall be made to the dosage of the air-entrainment admixture.

##### 3.6.3.2 Slump



Whenever a test result is outside the specification limits, the concrete shall not be delivered to the forms and an adjustment should be made in the batch weights of water and fine aggregate. The adjustments are to be made so that the water-cement ratio does not exceed that specified in the submitted concrete mixture proportion.

#### 3.6.4 Reports

The results of all tests and inspections conducted at the project site shall be reported informally at the end of each shift and in writing weekly and shall be delivered within 3 days after the end of each weekly reporting period. See Section 01451 CONTRACTOR QUALITY CONTROL.

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## SECTION 03308

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## SECTION 03308

## CEMENT GROUTING

## PART 1 GENERAL

## 1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

## ACI INTERNATIONAL (ACI)

ACI 211.1 (1991) Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete

## AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 31 (1991) Making and Curing Concrete Test Specimens in the Field

ASTM C 150 (1994) Portland Cement

ASTM C 1107 (1991a) Packaged Dry, Hydraulic-Cement Grout (Nonshrink)

## 1.2 GENERAL REQUIREMENTS

The work required under this Section consists of furnishing all labor, materials, equipment, testing and performing all operations required to construct a cement grout barrier as specified and as shown on the drawings. Prior to beginning work, the Contractor shall relocate the existing electrical conduit as specified in section 02139 SITE PREPARATION. Equipment and techniques proposed for use in the work shall not be used until they have been demonstrated and approved. Materials and equipment which have not been approved for use in the work shall not be stored or brought on to Government property. The Contractor's quality control shall conform to SECTION 01451 CONTRACTOR QUALITY CONTROL. All sampling and testing shall be the Contractor's responsibility, and shall be performed by an approved independent commercial testing laboratory, except as otherwise specified.

## 1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-08 Statements

#### Proportions of Mixture; G-AOF

The results of trial mixture along with a statement giving the exact proportions of all ingredients that will be used in the manufacture of cement grout, at least 14 days prior to commencing placing operations. The statement shall be accompanied by test results from an independent commercial testing laboratory, attesting that the proportions selected will produce grout of the qualities indicated. No substitutions shall be made in the materials used in the work without additional tests to show that the quality of the grout is satisfactory.

#### Qualifications;

A statement certified by the contractor attesting that the experience and qualification of the workers (journeymen) comply with the specifications.

#### SD-09 Reports

#### Sampling and Laboratory Testing of Materials; G-AOF

Certified copies of laboratory test reports on analysis of cement grout mixtures. These tests shall be made by an approved commercial laboratory or by a laboratory maintained by the manufacturers of the materials.

#### Report; G-AOF

A written report shall be prepared and submitted by the Contractor and three (3) copies shall be submitted to the Contracting Officer for approval within fifteen (15) calendar days after completion of the required coring for the demonstration. This report shall include, as a minimum, grout mixes used, properties of the mixes, grouting pressures, pressure versus flow distance charts, hole sequencing, test procedures, test results, typed logs and records and observations of drilling, grouting and coring from the demonstration. This report shall also state procedures used in the demonstration and shall set fourth the established procedures which are to be used to complete the remainder of the work.

#### Disposal of Excess or Waste Grout; G-AOF

The Contractor's proposed method for disposal of excess grout and wash water shall be submitted to the Contracting Officer for approval, prior to any on-site work.

#### Plan of Operation; G-AOF

A plan of Operation shall be submitted to the Contracting Officer for approval a minimum of fourteen (14) calendar days prior to any scheduled on-site work including demonstration areas.

#### SD-13 Certificates

#### Materials; G-AOF

Certificates of compliance attesting that the materials meet specification requirements.

#### SD-18 Records

#### Records;

The Contractor shall keep accurate drill and core logs and records of all work accomplished under this contract and shall submit field logs and records to the Contracting Officer within one (1) calendar day after drilling, grouting or coring with the daily Contractor Quality Control Reports. Typed core logs and records shall be submitted to the Contracting officer within five (5) calendar days after coring. Grout logs and records shall be submitted in an acceptable chart-type format that facilitates rapid visual evaluation of the results of the work.

#### 1.4 QUALIFICATIONS

The Contractor shall establish, to the satisfaction and approval of the Contracting Officer, that the planning for cement grouting and the actual placement of grout, mixing and injection of cement grout is to be performed by workers experienced in grouting operations and who have successfully completed cement grouting projects of similar scope and purpose. The Contractor shall provide qualified workers trained and experienced in cement grout placement for at least 5 consecutive years. A list of similar jobs shall be provided identifying when, where, and for whom the work was done prior to commencing the grout capability demonstration.

#### 1.5 SAMPLING AND LABORATORY TESTING OF MATERIALS

Sampling and testing shall be performed by an approved independent commercial testing laboratory, or by the Contractor subject to approval. Should the Contractor elect to establish testing facilities, no work requiring testing shall be permitted until the Contractor's facilities have been inspected and approved. All sampling and testing shall be the Contractor's responsibility.

#### 1.6 PROPORTIONS OF MIXTURE

Trial batches shall contain materials proposed to be used in the project. Trial mixtures having proportions, consistencies and air content suitable for the work shall be made based on methodology described in ACI 211.1, using at least three different water/cement (w/c) ratios. Trial mixtures shall be proportioned to produce cement grout matching the qualities specified. Trial batches shall be sedimentation stable mixes containing less than 1% bleed water.

#### 1.7 CEMENT GROUTING PROCEDURES

##### 1.7.1 General

Cement grout shall be placed in the acceptably completed holes. Placement of the cement grout shall be through grout pipes drilled to the depths as shown on the drawings. The grout pipes shall be extracted gradually and uniformly to the top of the stone fill. Sand mixes shall be pumped into the structure as required.

##### 1.7.2 Cement Grout Mixing Method

The method of mixing for cement grout shall be the continuous or batch mixing method. A high speed colloidal mixer shall be used to mix the grout. Mixing shall be monitored by separate proportioning or batching indicators for each material mixed which will automatically provide a continuous, mechanical record of proportions. Such records shall be submitted to the

Contracting Officer's Representative within one (1) calendar day after grouting with the required daily Contractor Quality Control report.

#### 1.7.3 Drilling Grout Holes

Holes for cement grouting shall be drilled by rotary or other drill method as approved by the Contracting Officer. Percussion drilling is prohibited. The minimum diameter of holes shall be three (3) inches. Straight casing shall be advanced through the block wall to the depth as shown on the drawings. Upon reaching final depth, the drilling apparatus shall be withdrawn from the drill hole. Redrilling caused by grouting the casing in the hole shall be at the Contractor's expense. Any drill hole that is lost or damaged due to mechanical failure of equipment, inadequacy of grout supply, or improper injection procedure shall be properly filled and replaced by another hole, at no additional cost to the Government for the filling or for the drilling of the abandoned holes.

#### 1.7.4 Hole Pattern

The suggested number, spacing, drilling and grouting sequence of the holes shall be similar to those shown on the drawings, but may be modified. The on-site spacing of the holes not containing rebar may be modified due to site conditions. All modifications must be approved by the Contracting Officer's Representative.

#### 1.7.5 Injection Procedures

The cement grout shall be placed into the voids in the stone soley under gravity pressures. The pumping equipment consists of standpipes for slightly added pressures. Grouting will continue until all voids in the stone wall have been filled. The grout pipe shall slowly be withdrawn as the grout is placed. The grout pressure shall be increased as the grout is placed. When the pressure rises rapidly the grout pipe shall be withdrawn, and grouting shall continue at a higher elevation until the entire column is grouted. If the hole does not fill or the pressure builds up, the grout pipe shall be withdrawn in uniform intervals to distribute the grout through the column. A log of the grout placed at each hole shall be completed. Pressures shall be determined as close as possible to the point of injection, but no farther than at the top of the grout hole. The maximum flow rate per nozzle shall be fifty (50) gallons per minute, but shall be variable, based on the site conditions, to assure complete filling of the voids with the cement grout material. If grout does not travel to or rise up the hole and the optimum pressure shall be achieved, the Contractor shall inject grout at that pressure until the Contractor cannot inject more than one (1) cubic foot of grout in ten (10) minutes. The Contractor shall also inject no more than two (2) times the estimated volume into any one (1) grout hole at any one (1) time. If this two (2) times the estimated volume is achieved, the Contractor shall stop grouting in that hole for a minimum of forty-eight (48) hours and then resume injecting with no more than an additional estimated volume of grout injected. The estimated quantity per hole shall be calculated based on the depth of the hole drilled times an estimated eleven (11) cubic feet of grout per linear foot to be grouted.

#### 1.7.6 Excess Flow

Amount of sand or bentonite in grout mix shall be adjusted in areas of the structure where water flow through the structure is too large for grout to hold and fill the voids. If flow is so great that no mix will work, clay

shall be packed as necessary on the backside of the structure to reduce water flow. Use of this method requires approval of the representative of the contracting officer, and shall be paid for under authority of the "Changes Clause".

#### 1.7.7 Disposal of Excess or Waste Grout

All necessary precautions shall be taken to assure that the grout, or waste from the grouting operation does not advance beyond the limits of the structure. Disposal of excess grout, wash water, or other waste products into the open water shall not be permitted. If the Contractor chooses to dispose into the structure, disposal shall be a minimum of twenty-five (25) feet away from cement grout recently placed.

#### 1.8 QUALITY OF MATERIALS

The cement grout mix being used, during demonstration and production grouting shall be tested for compressive strength by making one set of three (3) inch diameter by six (6) inch high cylinders for each day of operation. Each set shall consist of three (3) cylinders, one (1) cylinder from each set shall be tested at seven (7) days and two (2) cylinders from each set shall be tested at twenty eight (28) days. Test cylinders shall be made and tested in accordance with ASTM C 31, except that the cement grout for the test cylinders shall be taken from that being injected into the holes, but no farther from the injection point than at the top of the hole. Three (3) P-sized or larger diameter cores of in-place material shall be taken for compressive strength testing if cylinders do not indicate that the cement grout is of the required strength, at no additional cost to the Government. Such cores shall be taken only from the grout to be tested and shall be subjected to destructive and compressive strength by the Contractor's approved laboratory. Viscosity shall be checked with a PCA flow cone or Marsh funnel. All phases of testing shall be performed by the Contractor at his expense with the test results furnished to the Contracting Officer within five (5) calendar days of the test.

#### 1.9 STORAGE OF MATERIALS

Cement shall be stored in weathertight buildings, bins, or silos which will exclude moisture and contaminants. Cement shall be furnished in suitable bags used for packaging cements. Labeling of packages shall clearly define contents, manufacturer, batch identification, etc..

#### 1.10 WEATHER LIMITATIONS

Cement grout shall not be placed when weather conditions detrimentally affect the quality of the finished product. No grout shall be placed when the air temperature is below 40 degrees F in the shade. When air temperature is likely to exceed 90 degrees F, grout shall have a temperature not exceeding 90 degrees F when deposited.

### PART 2 PRODUCTS

#### 2.1 MATERIALS

Cement grout shall be composed of Portland cement, fine aggregate, expansive gelling agent and water.

##### 2.1.1 Cement



Portland cement composition shall conform to the basic requirements of ASTM C 150, Type I. Cement shall have non-shrink (shrinkage compensating) properties and shall conform to ASTM C 1107, Class B or C, expansive cement type. A manufacturers certificate shall be submitted to the Contracting Officer for approval, to attest that the cement is as specified.

#### 2.1.2 Water

Water used in producing cement grout shall be fresh, clean, potable, and free from injurious amounts of oil, acids, salt, alkali, or detritus .

#### 2.1.3 Sand-Cement Grout

Sand-Cement grout mixture used to seal structure and fill bore holes shall be composed of one part Portland cement and two parts sand, measured by volume, and mixed with water to obtain a uniform consistency. The maximum water-cement ratio shall be 0.6 for sealing grout and 0.45 for anchor hole grout. The sand-cement grout mix shall be the responsibility of the Contractor. The Contractor shall submit his proposed mix design to the Contracting Officer for approval. Sand for use in the grout shall be natural aggregate (masonry sand) conforming to ASTM C 144.

#### 2.1.4 Expansive Gelling Agent

The cement grout mix shall include an expansive gelling agent to aid in the cutting off the flow of water. The expansive gelling agent shall be selected by the contractor and consist of bentonite, aqua gel, or other material that will swell after placement. The proportion of expansive agent shall be selected by the Contractor and shall be 5% to 20% by weight of the total grout mix. The gelling agent should be pre-mixed with water prior to mixing with the cement grout. The pre-mixing time prior to mixing of the gelling agent, the cement will be delayed to allow the gel to begin swelling. The length of time of mixing with the cement grout will be based on the manufacturers recommendation.

### 2.2 MIX DESIGN

A minimum of four (4) distinct mixes, one without any sand, and at sand/cementitious ratios of 2, 2.5 and 3 to 1, so as to fulfill the requirement stated below, shall be submitted to the Contracting Officer for approval. The Contracting Officer will choose one of the three approved design mixes, to be proven as effective in the demonstration, for use in the project. This mix will be the basis for the Contractor to vary the grout mixes due to field conditions. The mixes shall be easily adjustable during placement so as to stay within the limits as specified herein. Pumping agents and plasticizers may be allowed, subject to the discretion and approval of the Contracting Officer, and satisfactory laboratory and demonstration test results. The mixes shall have the following characteristics:

Water/Cementitious Ratio: 0.6 maximum, by weight for sealing grout or 0.45 maximum by weight for backfilling anchor core holes.

Sand/Cementitious Ratio: 2:1 to 3:1 by weight

Expansive Gelling Agent: 5 % - 20 % by weight

## 2.3 STRENGTH

The cement grout shall have a minimum compressive strength of 2,000 psi at twenty eight (28) days. A certificate from an approved laboratory shall be submitted to the Contracting Officer for approval to attest that the strength is as specified.

## PART 3 EXECUTION

### 3.1 DEMONSTRATION SECTION

Prior to the beginning of production grouting, the Contractor shall conduct an in-place demonstration of grouting methods in an area shown on the drawings. The demonstration will be considered successfully completed if the water leakage through the demonstration section of the structure has been stopped, and the voids between the stone blocks are filled with cement grout to a level acceptable to the Contracting Officer. The demonstration shall consist of drilling the holes as shown on the drawings; cement grouting, using the equipment, mix designs and proposed grouting methods; coring; furnishing field logs and records to the Contracting Officer within one (1) calendar day. Furnish typed logs and records to the Contracting Officer within five (5) calendar days after completion of drilling, grouting and coring. Approval to production drill and grout must be received from the Contracting Officer prior to production grouting and drilling.

#### 3.1.1 Time Period

A minimum of ten (10) working days after successful completion of the Demonstration shall be allowed for Government review and approval prior to the commencement of production of cement grouting and production drilling. The Demonstration shall be completed within thirty (30) calendar days after the receipt of the Notice of Proceed. This time period can be extended by the Contracting Officer, if determined to be necessary.

#### 3.1.2 Coring

Upon completion of the demonstration grouting, a minimum of two (2) P-sized (3.345 inch core diameter) or larger cores shall be taken by the Contractor in locations designated by the Contracting Officer's Representative. Provide core/drilling between twenty one (21) and thirty five (35) calendar days after completion of the demonstration section to check the acceptability of the Contractor's proposed mix designs and methods of cement grouting.

#### 3.1.3 Cement Grouting

The area indicated for cement grouting is shown on the contract drawings. The Contractor shall perform cement grouting on the demonstration section first in accordance with the requirements specified herein and details shown on the drawings. Upon the approval of the results of the completed demonstration section, the Contractor shall then proceed with cement grouting of the remaining areas. If the results of the demonstration section require revisions of size of drilling holes, spacings and grout mixes, an equitable adjustment in the cost and or time may be made pursuant to Clause, entitled "CHANGES".

### 3.2 EQUIPMENT

#### 3.2.1 General

All cement grouting equipment shall be of a type and capacity suitable for doing the work. The equipment shall be maintained in first class operating condition at all times.

#### 3.2.2 Equipment

The cement grout equipment shall be located at or near the area of placement, shall be of the continuous mixing type and shall be capable of supplying, proportioning, mixing and pumping the grout. Automatic hard copy records or printers are required on all scales (digital readout), flow meters, pressure gages, etc. used in the mixing, pumping, transportation and injection of the cement grout. Certification from an approved laboratory shall be submitted to the Contracting Officer for approval that the scales, meters, gages, etc. are accurate to within two percent (2%) over the entire range to be measures. Scales, meters, gages, etc. shall be tested and calibrated on a monthly basis for accuracy throughout the performance period of the work and shall be calibrated or replaced as necessary to assure accuracy within two percent (2%) over the entire range to be measured.

#### 3.2.3 Pumps, Piping and Accessories

The pumping unit shall be equipped with piping and/or hoses with the capacity to carry the cement grout to the point of injection and shall be capable of recirculating the cement grout through the lines back to the pump. Distribution of cement grout under pressure to the grouting locations shall be monitored by separate flow rate indicators and gages which will provide a continuous, mechanical record of flow rates, pressures, etc.. Such records shall be submitted to the Contracting Officer within one (1) calendar day after grouting, with the required daily Contractor Quality Control Reports. The grout pipe and casing shall be retractable so that the grout pipe can be uniformly withdrawn during grouting to assure that grout is uniformly dispersed throughout the column.

Grout pipe and casing shall be straight sections with no curvature. Packers or other approved methods shall be used to seal the annular space between the hole and the grout pipe. Gages shall have appropriate upper and lower limits to determine pressures. Pressure shall be determined and recorded as close as possible to the point of injection, but no farther than at the top of the hole. The Contractor shall verify this range or formulate a new range during the demonstration which is suitable for the grouting.

### 3.3 APPLICATION OF CEMENT GROUT

Cement grout shall be placed to build a water seepage barrier to block water flow from upper pool through the masonry abutment wall as shown on the drawings. The barrier is to extend one (1) foot below the bedrock surface as shown on the drawings.

### 3.4 PROTECTION OF WORK

Work shall be protected against damage from subsequent operations.

### 3.5 DEFECTIVE WORK

Defective work which does not meet the requirements of this section as determined by the Contracting Officer's Representative shall be repaired or replaced, as directed, using procedures approved by the Contracting Officer's Representative.

### 3.6 CARE AND DELIVERY OF THE CORES

The Contractor shall be solely responsible for preserving all cores in good condition until completion of the work and delivery to the Contracting Officer. The Contractor shall keep the cores from freezing and from undue exposure to weather, and shall keep the descriptive labels and designations on the boxes clean and legible until completion of the project and delivery to the Contracting Officer. Inspection of the cores shall be available to the Government personnel throughout the duration of the project. Except as otherwise specified, the Contractor shall deliver the cores, in boxes, to the U.S. Army Corps of Engineers, Kewaunee Area Office, 124 N. Main St, Kewaunee, Wisconsin 54216 upon completion of the project. The cores and boxes shall then become the property of the Government.

### 3.7 QUALITY CONTROL

The Contractor shall establish and maintain a quality control system for all operations performed under this Section to assure compliance with contract requirements and maintain records of his quality control for all operations performed, including, but not limited to, the following:

- (1) Quality of materials
- (2) Proper mixing, proportions, properties and injection of grout
- (3) Location and installation of grout
- (4) Complete filling of the voids within the specified limits
- (5) Drilling depths and materials encountered
- (6) Observations of safety regulations

#### 3.7.1 Records

All records and logs shall be preserved in good condition and order by the Contractor until they are submitted to and accepted by the Contracting Officer. The Contracting Officer shall have the right to examine such records and logs at any time prior to their submittal. Separate logs shall be prepared for each drill and core hole. The following information shall be included on the logs and records: hole number or designation and elevation of the top and bottom of the hole; dates and time by depth when drilling and coring operations were performed; depths at which cores were recovered or attempts were made on the project site to core, including top and bottom depths of each run; percentage of core recovered per run; depth at which water was encountered; grout mixes used, including their properties, and exact locations where injected; injection pressures, rates, volumes, times and dates at each hole; exact locations, times and dates of obtaining the test samples. The presence of a Government inspector, or the keeping of separate logs and records by the Contracting Officer during any phases of the grouting operations, shall not relieve the Contractor from his responsibility for work specified in this paragraph. Payment will not be made for any work for which the required records and logs have not been

furnished by the Contractor.

### 3.7.2 Plan of Operation

This plan shall address all proposed aspects of the grouting operation, and shall include as a minimum: range of design mixes; test results of the design mixes, such as compressive strengths and slumps at the pump and anticipated at the point of injection; methods of removing casing; methods of mold, obtain and test the quality of materials and workmanship; method of determining when area is acceptably grouted within the specified limits shown on the drawings; equipment list, including descriptions, operating speeds, etc.; qualification statements of supervisors, consultants, etc.; casing diameter and type; schedule and sequence of drilling, grouting, testing, submittals, etc.; format of grout charts and records; sample drilling and coring logs; expansive gelling agent, fine aggregate gradation, cement certificates; sample mixing, coring and drilling records; sample printouts from recording gages, scales and flow meters; proposed quality control laboratory.

### 3.8 TESTS

Following placement of the production cement grout, the Contractor shall take one (1) P-sized or larger core from every 50 linear feet section of the area cement grouted to confirm the acceptance of completed seepage barrier. The exact locations of the cores will be determined by the Contracting Officer's Representative. The cores shall be taken down to the full depth of the structure. Each open hole from the core is required to pass a falling head test where acceptance is determined to be a water loss from the hole not to exceed 1/2 gallon of water in ten (10) minutes. Coring shall occur between twenty one (21) and thirty five (35) days following placement of the cement grout. The minimum recovered core diameter shall be P-sized or larger in diameter. All attempts shall be made to recover all materials encountered. After satisfactory core samples have been obtained, the core holes shall be backfilled with cement grout.

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DIVISION 05 - METALS

SECTION 05500A

MISCELLANEOUS METAL

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## SECTION 05500A

## MISCELLANEOUS METAL

## PART 1 GENERAL

## 1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

## AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 123/A 123M (2001) Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products

ASTM A 53/A 53M (2001) Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless

## AMERICAN WELDING SOCIETY (AWS)

AWS D1.1 (2000) Structural Welding Code - Steel

## 1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

## SD-02 Shop Drawings

Miscellaneous Metal Items; G-AOF.

Detail drawings indicating material thickness, type, grade, and class; dimensions; and construction details. Drawings shall include catalog cuts, erection details, manufacturer's descriptive data and installation instructions, and templates. Detail drawings for the following items: Handrails, Anchor Bars and Plates.

## 1.3 GENERAL REQUIREMENTS

The Contractor shall verify all measurements and shall take all field measurements necessary before fabrication. Welding to or on structural steel shall be in accordance with AWS D1.1. Items specified to be galvanized, when practicable and not indicated otherwise, shall be hot-dip galvanized after fabrication. Galvanizing shall be in accordance with ASTM A 123/A 123M, ASTM A 53/A 53M, or ASTM A 924/A 924M, as applicable. Exposed fastenings shall be compatible materials, shall generally match in color and finish, and shall harmonize with the material to which fastenings are applied. Materials and parts necessary to complete each item, even

though such work is not definitely shown or specified, shall be included. Poor matching of holes for fasteners shall be cause for rejection. Fastenings shall be concealed where practicable. Thickness of metal and details of assembly and supports shall provide strength and stiffness. Joints exposed to the weather shall be formed to exclude water.

#### 1.4 DISSIMILAR MATERIALS

Where dissimilar metals are in contact, or where aluminum is in contact with concrete, mortar, masonry, wet or pressure-treated wood, or absorptive materials subject to wetting, the surfaces shall be protected with a coat of bituminous paint or asphalt varnish.

#### 1.5 WORKMANSHIP

Miscellaneous metalwork shall be well formed to shape and size, with sharp lines and angles and true curves. Drilling and punching shall produce clean true lines and surfaces. Welding shall be continuous along the entire area of contact except where tack welding is permitted. Exposed connections of work in place shall not be tack welded. Exposed welds shall be ground smooth. Exposed surfaces of work in place shall have a smooth finish, and unless otherwise approved, exposed riveting shall be flush. Where tight fits are required, joints shall be milled. Corner joints shall be coped or mitered, well formed, and in true alignment. Work shall be accurately set to established lines and elevations and securely fastened in place. Installation shall be in accordance with manufacturer's installation instructions and approved drawings, cuts, and details.

#### 1.6 ANCHORAGE

Anchorage shall be provided where necessary for fastening miscellaneous metal items securely in place. Anchorage not otherwise specified or indicated shall include slotted inserts made to engage with the anchors, expansion shields, and power-driven fasteners when approved for concrete; toggle bolts and through bolts for masonry; machine and carriage bolts for steel; and lag bolts and screws for wood.

#### 1.7 SHOP PAINTING

Surfaces of ferrous metal except galvanized surfaces, shall be cleaned and shop coated with the manufacturer's standard protective coating unless otherwise specified. Surfaces of items to be embedded in concrete shall not be painted. Items to be finish painted shall be prepared according to manufacturer's recommendations or as specified.

### PART 2 PRODUCTS

#### 2.1 HANDRAILS

Handrails shall be designed to resist a concentrated load of 200 pounds in any direction at any point of the top of the rail or 20 pounds per foot applied horizontally to top of the rail, whichever is more severe.

##### 2.1.1 Steel Handrails, Including Carbon Steel Inserts

Steel handrails, including inserts in concrete, shall be steel pipe conforming to ASTM A 53/A 53MASTM A 500, Grade A or B of equivalent strength]. Steel railings shall be 40 [2} inch standard size, steel posts to be 2.5" standard pipe. Railings shall be shop painted. Pipe collars



shall be steel primered and finish painted blue.

- a. Joint posts, rail, and corners shall be fabricated by one of the following methods:

(1) Flush type rail fittings of commercial standard, welded and ground smooth with railing splice locks secured with 3/8 inch hexagonal recessed-head setscrews.

(2) Mitered and welded joints by fitting post to top rail and intermediate rail to post, mitering corners, groove welding joints, and grinding smooth. Railing splices shall be butted and reinforced by a tight fitting interior sleeve not less than 6 inches long.

(3) Railings may be bent at corners in lieu of jointing, provided bends are made in suitable jigs and the pipe is not crushed.

- b. Removable sections, toe-boards, and brackets shall be provided as indicated.

## 2.2 SAFETY CHAINS

Safety chains shall be galvanized welded steel, proof coil chain tested in accordance with ASTM A 467/A 467M, Class CS. Safety chains shall be straight link style, 3/16 inch diameter, minimum 12 links per foot and with bolt type snap hooks on each end. Eye bolts for attachment of chains shall be galvanized 3/8 inch bolt with 3/4 inch eye, anchored as indicated. Two chains shall be furnished for each guarded opening.

## PART 3 EXECUTION

### 3.1 GENERAL INSTALLATION REQUIREMENTS

All items shall be installed at the locations shown and according to the manufacturer's recommendations. Items listed below require additional procedures as specified.

### 3.2 ATTACHMENT OF HANDRAILS

Toeboards and brackets shall be installed where indicated. Splices, where required, shall be made at expansion joints where required. Removable sections shall be installed as indicated.

#### 3.2.1 Installation of Steel Handrails

Installation shall be by means of pipe sleeves secured to concrete cap with expansion bolts and post bolts as shown on the drawings.

### 3.3 MOUNTING OF SAFETY CHAINS

Safety chains shall be mounted 3 feet 6 inches and 2 feet above the concrete cap.

-- End of Section --